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ABSTRACT

This essay addresses the question of why teaching seems to be resistant to change. It is argued that researchers' answers have suffered from defects both in how the question has been framed and where the answers are to be found. It is pointed out that, assuming that teaching can and should change, "barriers" to change have been sought, but most explanations on conservatism in teaching focus on external conditions such as finance, organizations, incentives, and the like. However, locating the fundamental barriers to change in instruction within teaching and learning, rather than outside of them, it is posited that teaching is a practice in which one human being tries to improve the ideas, capacities, emotional states, or organization of others. Efforts to make teaching more adventurous, spontaneous, and exciting run directly counter to the conservative tendencies in instructional practice, exemplified by the understanding of teaching as an attempt to "improve" the student. The nature of practice itself and its social constitution, perhaps, explain why so few teachers have embraced innovations. Even if restraining conditions were swept away, the nature of practice is such that most teachers and students would have great difficulty implementing instructional reforms that encourage sponaneous discovery learning. (JD)

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David K. Cohen

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David K. Cohen

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Abstract

This essay revisits a question that has troubled educators and researchers for decades: Why does teaching seem so resistant to change? The author argues that researchers' answers thus far suffer from defects both in how the question has been framed and in where the answers have been found. The question has been put in a way that assumes that teaching should and could change radically, that teaching could be organized so that learning was eager, spontaneous, engaging, and powerful. The author traces the near origins of this idea to Romantic traditions of thought about learning in American literature, psychology, and pedagogy in the nineteenth century. Researchers, he argues, have accepted this view without scrutiny.

Given the assumption that teaching could and should change dramatically, it probably was inevitable that investigators would search for "barriers" to change in the circumstances of instruction. For if change was to be expected, its absence must be a consequence of some resistance external to teaching. In any event, most explanations on conservatism in teaching do focus on such external conditions: finance, organizations, incentives, and the like. While each of these is a reasonable explanation, the author points out that there are counterexamples for each, in which the barrier is absent but in which teaching is nonetheless reported to be traditional. None of the extant explanations of the poor record of instructional innovation attend to these counterexamples or to their implications for educational theory.

In the last part of the essay, the author locates the fundamental barriers to change in instruction within teaching and learning, rather than outside them. Teaching is a practice of human improvement: Like psychic therapies, social work, organization development, and other such practices, teaching is a practice in which one human being tries to improve the ideas, capacities, emotional states, or organization of others. Work in such practices presents practitioners with problems of great difficulty: They are hard to manage in any case and predispose most practitioners and clients toward conservative strategies. Additionally, the social constitutions of practice (the basic organization and terms of reference of practice), can either ease or exacerbate these problems Therapists, organization consultants, and other practitioners face the problems with considerable protection from the social constitution of their work. In contrast, most public schoolteachers in the United States face them with little or no such protection. The inherent tendencies toward conservative approaches to practice are thus given even greater force.

Efforts to make teaching more adventurous, spontaneous, and exciting run directly counter to these conservative tendencies in instructional practice. We can adequately explain why so few teachers have embraced such innovations simply with reference to the nature of practice itself and its social constitution. These internal problems are certainly compounded by the various circumstantial factors to which analysts have pointed in the last few decades. But even if these restraining conditions were magically swept away, the nature of practice is such that most teachers and students in U.S. public schools would have great difficulty implementing the instructional reforms discussed here.

TEACHING PRACTICE: PLUS ÇA CHANGE . . . *

David K. Cohen**

Introduction

Americans always have been hopeful about education. But they also have been deeply divided about how best to promote it. Horace Mann, Catherine Beecher, and legions of other nineteenth century school boosters were convinced that education would flourish in state-maintained schools. They believed that such schools could turn a rough and divided collection of peoples into a self-governing political community. They worried about urban crime, Irish immigrants, delinquent children, uneducated teachers, and how to teach the political virtues required in a popular democracy--among other things. Some of these school boosters wrote in a sunny, hopeful voice, while others were mean and fretful. Few paid much attention to teaching and learning: They assumed a simple pedagogy, trusting that children would learn what they were taught. Partly because of this last assumption, they saw schools as a powerful creative force. They believed that compulsory public schools could make over an ignorant and unruly people, and thereby redeem a threatened democracy.[1]

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*This essay was prepared for discussion at the Benton Center for Curriculum and Instruction at the University of Chicago. It has profited from the comments of Robert Floden, Magdalene Lampert, and several participants at the Benton Center discussion. An earlier version is in press and will appear in Jackson, P. (ed.). Contributing to Educational Change: Perspectives on Research and Practice (National Society for the Study of Education Series on Contemporary Issues). Berkeley, CA: McCutchan, 1988.

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But many other Americans had a radically different vision of education. James Fenimore Cooper, Mark Twain, and other Romantics saw education as a do-it-yourself proposition, carried out alone or with a few friends. They depicted education as an adventure, a collision between untamed impulses and real experience. More often than not, these adventures were played out in tough and lonely struggles to learn the wild country. But if the Romantics attended closely to learning, their conception of teaching was modest. In fact, the only real teachers in this tradition were the learners themselves, as they struggled with an unforgiving nature or unyielding masters. In Twain's lovely story of learning to become a Mississippi riverboat pilot, he notes that while he learned from master pilots, he had no teachers.[2]

Because they saw education as a solitary adventure, these Romantic writers were great school-haters. They saw the nation's spreading public schools as the antithesis of education, because schools replaced compelling adventures with boring, formal instruction. Schools shifted the locale of learning from the wild country to slates and books. Learning from oneself, from those who knew the country, and from the country itself was giving way to learning from people who hardly knew anything--teachers, many of them women. The promise of schooling was of formal and rigid "sivilization," sure to stifle that wild spirit which the Romantics celebrated in America.[3] None of the great school-haters ever took up a crusade against formal education; they much preferred to celebrate innocent learning than to denounce arid institutions. But if we believe such contemporary accounts as Edward Eggleston's,[4] the literary objections to schools that I have sketched had broad popular roots.

These two educational traditions remained more or less distinct during most of the nineteenth century. They still have lives of their own today.

One is visible in the persistent boosterish belief that formal education can patch any gash in the social fabric. The other is evident in a still popular romanticism of real experience, and in a lively contempt for those who know only books and can only teach. But late in the last century John Dewey changed everything for American education when he joined these two divergent faiths. He announced that the innocent education which the Romantics had celebrated could occur in the schools that they had damned. He argued that public schools, boosted for their power to put a common stamp on rebellious outsiders and rancorous strangers, could nurture the risky, adventurous, quirky learning that Twain had found on the river.

This was Dewey's most astonishing idea: that education (in the Romantic sense) was possible in schools. It was not his alone, but he was easily its greatest apostle, and it may have been his greatest contribution. He drew on a stream of passionate school hating for his conception of learning and education, and like the other Romantics, Dewey was a good school-hater. But unlike them he hated only the schools that happened to exist. Unlike them he was a tireless evangelist for the idea that existing schools could be redeemed, that schools could foster adventure and build on idiosyncracy. And unlike the earlier school-haters, who had believed that the education they cherished would wither in the mere vicinity of formal instruction, Dewey insisted that it could flourish in schools. Indeed, he argued that education would be perfectly natural in schools, perhaps even easy. He devoted little attention to explaining why it had never happened before, but he seems to have thought that it was only because people had not decided that it should happen, and devoted themselves to the task.[5]

Dewey's synthesis of these two traditions offered Americans a new vision of what schools could do. They could harmonize real experience and academic

learning. They could break down the walls between schools and communities. They could replace the arid regime of drill and practice with spontaneous discovery and excited learning. This vision implied an extraordinary new conception of teaching. Teachers would have to be knowledgeable about experience, academic knowledge, and learning, knowing these territories as well as mountain guides knew theirs. Teachers would then be able to devise ways for children to adventure their way to real knowledge: to rediscover science and technology for themselves; to reenact the essential history of the race; and to re-solve the great problems of human thought and history. Teachers would have to become a species of mental mountaineer, finding paths between innocent curiosity and the great store of human knowledge, and leading children in the great adventures from one to the other. Such teachers could make schools into places in which everyone would learn and love it. And, good small-town New England boy that he was, Dewey firmly believed that everyone could learn the same essential lessons in schools, even though they would pursue somewhat different paths. Teachers would thus help to turn Americans into a single people, competent and thoughtful, independent and cooperative.

This was an astonishing vision. It remarkably expanded the aims of schooling. It greatly broadened the schools' embrace to include the most contrary Americans: cowboys and Indians, children and scientists, haters of school and lovers of education. And it therefore radically reimagined the nature of teaching. Dewey's vision helped to create a new faith in schools as innocent institutions, which may be one of our most distinctive inventions. His vision also gave a real boost to the still-youthful tradition of innovative teaching on which he had drawn so heavily. The decades in which Dewey produced so much of his educational writing (1890-1910) also saw the

flowering of many efforts to invent new instructional practices to build the new education of which he wrote so often.

Despite that early flowering, the legacy of Dewey and his early allies has been oddly mixed. Many studies during this century have claimed that the innovations they championed have had slow and heavy going. Capping this line of work recently, Larry Cuban concluded that Progressive ideas about instruction have made only modest headway in practice, at best.[6] But if Dewey's new vision did not affect American schools as profoundly as many had hoped, it did have a great impact on Americans' view of schools, and on ideas about how to evaluate them. When Mark Twain composed the Adventures of Huckleberry Finn, the best that any school-hater could do was to write about the evils of schools and the virtues of stealing away from them into the woods or down to the river. But John Dewey taught that we could change schools, that we could bring our woods-and-rivers adventures into the classrooms, and enrich both in the process.[7] By fusing American traditions of hating and boosting schools, Dewey helped to set new standards for judging formal education. He helped to make it legitimate to expect intellectual adventure as a regular part of any neighborhood school.

Dewey's synthesis thus gave Americans something new and different to hate about schools: not just their sterility compared to woods and streams, but their failure to produce intellectual adventure in standard classrooms. His vision therefore gave new and potent content to America's old habit of school hating. Not surprisingly, this change in our ideas about what schools could do had its effects on educators: School hating soon became a staple in the educational mainstream. Dewey's ideas helped teachers, administrators, and school reformers to become articulate critics of schools' formality and traditionalism and their lack of adventure and excitement.

Another way to put all this is that Dewey helped to create a new social problem: schools that refused to change or failed to change, schools that stuck to the bad old ways in spite of the good new education. This could not have been a problem for most of the nineteenth century, because the chief changes that Americans desired from schools then was their expansion, and that occurred with great speed. But the lack of innovation began to become a problem at the end of the century, when Dewey and his allies helped to convince Americans that schools could do things that had rarely been imagined for them.

These new ideas about what to expect from schools revised our views about what needed to be explained about them. For Twain and other school-haters, what had needed to be explained was simple: How could such strange institutions exist in this wild and innocent land? How would they spoil it, and how quickly? But after Dewey, something new needed to be explained: Why did schools remain in their hated old condition? Given the new light, why did they not change?

Explaining Failure

I begin by exploring how these questions have been answered. I do so in part because I think the answers have been inadequate, and in part because I think the questions have been badly posed. There have, of course, been many efforts to change instruction, but I restrict this discussion to a long line of efforts to make teaching more adventurous: It embraces Dewey's Progressivism, Discovery Learning, Jerome Bruner's ideas about learning, and most of the curriculum reforms of the 1950s. This tradition is not marked by doctrinal coherence or consistency: Adherents have fought more than a few little wars. But considered against the broader background of American education,

this tradition is distinguished by several crucial common beliefs: that school instruction can be exciting, and must be if children are to learn; that instruction also should be intellectually challenging; that to be either exciting or challenging it must be attuned to children's ways of thinking, to their experience, and to their own efforts to make sense of experience; and that some of the greatest intellectual adventures are to be found in the structure and content of academic knowledge. This is a tradition to which Dewey has made fundamental contributions. It is the tradition whose modest acceptance in schools many reformers have bemoaned. It is the tradition whose disappointing track record several researchers have tried to explain, and to which many other theories of innovative failure might apply.[8] I synthesize many explanations under a few broad headings.

School Organization

One line of work has focused on school organization. Researchers have argued that America's decentralized system of educational government and our loosely jointed organization of schools gives teachers enormous autonomy, even if their formal authority seems quite limited. When innovations launched elsewhere seem inconsistent with teachers' view of instruction, they have plenty of room to ignore, turn aside, pervert or otherwise frustrate the innovations' intent and effect.[9] This line of argument is appealing--among other things, it paints a persuasive picture of schools' political and organizational situation. But it does not explain why teaching seems equally resistant to change in much smaller, more centralized, and tidy school systems, such as those of Australia, Singapore, or Great Britain. Nor does it explain why teaching appears to be very difficult to change in private schools and small colleges, whose organization and scale bear little resemblance to

American public schools. So even if we find the argument from organization attractive, it seems inadequate to explain the relative immobility of teaching practice.

The Conditions of Teaching

A second account points to the circumstances in which teachers labor. Larry Cuban and others have noted that most schoolteachers must work with a curriculum that they did not devise, and often with materials they do not like, as a matter of local practice or state policy or both. This restricts their opportunities to do things differently. They must accept a schedule that contains little flexibility for dealing with subjects and students, and little time to prepare new lessons or reconsider old ones. These conditions further restrict their opportunities to change or improve their teaching. And their workloads are ordinarily quite heavy: Either they must offer instruction in a great range of subjects, or they must teach the same subject to many students. Many must additionally supervise extracurricular activities, monitor lunchrooms, hallways, and playgrounds, and fill out a small blizzard of forms. Most teachers simply do not have the opportunities or energy to try something new, especially if it is a demanding something. Finally, while their jobs are difficult and increasingly demanding, they usually are poorly paid and held in low esteem. This does not enhance teachers' inclination to take on the demanding new assignments that much innovation entails.[10]

Finally, many innovations are not designed to take these conditions into account, either from ignorance or principled objection. Larry Cuban has argued, for instance, that most educational technology has failed to be widely adopted because it has been quite inflexible. Most schools had only one or two television sets, radios, movie projectors, or computer terminals. In the

days before the Sony Walkman or the microcomputer, either everyone in a class used these technologies or no one did. Such rigidity meant that radio, TV, and films could not easily be adapted to classrooms in which there was any internal variation in students' work.[11] And studies of other innovations, like the new curricula of the 1950s, showed that they were conceived and developed as self-contained packages, designed to be swallowed whole by schools and teachers. They were quite deliberately not adapted to the schools' curriculum, or to teachers' concerns; this meant that rates of adoption were generally low, and that the incidence of what sponsors viewed as misuse was relatively high.[12]

If these considerations account for the absence of much innovation in teaching, then one would expect teachers' work to be much more innovative when these conditions were absent. As a matter of fact, teachers in scores of colleges, universities, and private schools work under different conditions than most schoolteachers. Their teaching loads are much lighter. They either make up course curricula themselves, or they have a large role in devising it with colleagues. They have a great deal of time to prepare classes yet to come, and plenty of time to reconsider those just presented. They use the books and other materials they choose. They are rarely supervised or evaluated by anyone else. They have little paperwork and are held in higher esteem than schoolteachers. For all of these reasons and others, then, their teaching should be appreciably different than what is observed in public schools--if the conditions of teaching cause what is observed in public schools. But virtually all reports on teaching in colleges, universities, and private schools suggests that it is remarkably similar to what is observed in public schools. Lecture and recitation are the rule. Many students are bored. Rote learning is customary. When instruction is better at such

places, it seems to be more the result of enrolling selected and capable students, and teachers who know their subjects well, than to innovative pedagogy.[13]

My point is not that the conditions of teaching have no effect on public schoolteachers' work. But these examples strongly suggest that the conditions mentioned thus far are insufficient to account for teachers' resistance to adventurous instruction.

Flaws in Reform

A third explanation for the failure of educational reform focuses on internal frailties. One common view is that there have been inadequate resources to do the job: too little money, or too few people, or both.[14] Another explanation points to heavy-handed administration, which frustrates reform by ignoring teachers' concerns. Still another points to rapid political changes that dissipate the momentum of reform. And yet another focuses on deficiencies in curriculum, in teacher preparation, and in technical support for reform.[15]

These are all arguments with understandable appeal for educational reformers. And each is plausible, for at nearly any given point in time reform has been hampered by such frailties. But if we step back a few paces, we can see problems with these explanations. While public education does suffer with significant resource constraints, these have greatly diminished since World War I. Unit expenditures on education (adjusted for inflation), have grown astonishingly.[16] Class sizes have shrunk by nearly half. Books and other materials are abundant by any past standard, and are much more lively and varied. Yet there is no evidence that change in instruction has become easier or more rapid as a result of these greatly increased resources.

To persist with this explanation is thus to agree that practice will not change any time soon, because there is no reason to expect even greater resource increases. Nor is it plausible to explain the slow pace of instructional reform with technical deficiencies--that is, the lack of good alternatives in curriculum, or good ideas about instruction, or good people in teaching or teacher education. Many more improvements could be made in each of these areas, and in others as well. But inherited patterns of instruction have persisted through the provision of the new curricula and other instructional improvements that reformers desired. They have persisted as well through dramatic improvements in the education of American teachers and in teacher education. If such past resource improvements had little or no apparent effect on teaching, how much more would be required to do the trick?

Incentives for Change

A fourth explanation focuses on incentives. Free-market economists and reformers of other persuasions have argued that incentives for innovation are weak because public schools are nearly devoid of competition. They are maintained by government grants, and insulated from politics by layers of bureaucracy; as a result schools are said to be relatively immune to pressures for performance.[17] Decisions about the adoption or use of innovations are not much affected by the organizations' need to survive or prosper. For schools will go on and salaries will be paid even if promising innovations fail or go untried.[18]

Whether or not markets for schooling would have the desired effects, other commentators have argued that the present organization of public schools creates disincentives for innovations in teaching. The U.S. school system is broadly inclusive, which brings in many students who care little for academic

study. Community values typically support sports, socializing, and vocational learning over academic studies. These do nothing to enhance students' interest in intellectual pursuits or teachers' interest in inventive instruction. Virtually universal enrollment and compulsory attendance mean that education itself is an entirely ordinary and unspecial enterprise, and this also weakens academic commitment. Weak internal standards for promotion and graduation reinforce the sense that education is unspecial. In addition, they permit most students to get through, and out, with little effort. These further weaken incentives for demanding teaching.[19]

There also are strong economic and social pressures to attend school, and few legitimate alternatives for those who find school distasteful. Many school administrators respond to this situation by setting the highest priority on quiet, orderly classrooms, rather than pressing for serious learning and inventive teaching. These priorities are generally endorsed by school boards. Even highly motivated teachers, faced with many students who have little commitment to academic learning, must work within social and institutional constraints that do little to mobilize and much to discourage such commitment. These conditions do not preclude inventive and demanding teaching, but they often make it quite difficult. It is especially difficult for teachers to press academic work on unwilling students. For the lack of alternatives to school, the many social and legal pressures for attendance, and community and official support for many nonacademic features of schooling have made it perfectly legitimate to attend school without attending to education. Teachers who urge hard work on such students are in danger of becoming troublemakers, for if they elicit a disruptive response, it will be seen as the teachers' fault. Many teachers settle for minimal academic work, as a way to secure peace and quiet from the uncommitted.[20]

These arguments offer a plausible account of the social and organizational circumstances within which most schoolteachers work. But they do not seem sufficient to explain the glacial pace of change in teaching. There are, for example, schools that present a very different picture with respect to incentives, but in which teaching seems little different. Many private secondary schools are neither compulsory nor unspecial. Students choose to attend. They can be thrown out if they are disobedient. Their families pay fees. And there is evident student and faculty commitment to the school, and to each other. Yet the teaching in such places is often little different than in compulsory public schools.[21] Colleges and universities often present the same puzzle. Many of these institutions are relatively selective. None are compulsory. Attendance is far from universal. Teachers are not responsible for student discipline. Many compete for students and funds in markets. Yet many students do minimal work and many teachers require little in return for passing grades. Most teaching appears to be traditional lecturing, with little student participation. A great deal of it seems to be quite dull and to engage students minimally at best.[22] College and university teaching seems to have changed little during the course of this century. There is little evidence that innovations designed to improve instruction have been adopted, or used. Indeed, the evidence suggests less innovation here than in the lower schools. The argument from incentives is thus no more compelling than explanations that focus on the conditions of teaching, defects in reform, or problems of organization.[23]

What do these accounts tell us about efforts to explain the slow pace of change in teaching?

First, the explanations have not been very successful. While each account is plausible, there are equally convincing examples of traditional

teaching that persists when the explanatory factors are reduced or removed. These accounts may point to conditions that support traditional teaching, but they seem insufficient to explain the existence or persistence of such teaching.

In addition, the explanations themselves seem fundamentally odd. For instance, each account assumes that improvement and change are to be expected. Inquiries seek to explain the absence of change, to discern "barriers," or "obstacles," or "impediments" to improvement. But where is it written that change will occur if only the "obstacles" are removed? It is easy to understand why such an assumption would be common among educators, in view of many reformers' insistence that adventuresome teaching is possible anywhere. The idea that change is normal is particularly easy to understand among a people that embraces the idea of progress as avidly as Americans do. But why should researchers adopt these assumptions? Why should we accept that improvement is to be expected, or that change is the normal state of affairs? It may seem un-American, but perhaps stability is to be expected in teaching. Instead of looking for barriers to change in this practice, perhaps we should be exploring possible sources of persistence in it.

A related oddity is that each account assumes few barriers, within teaching, to making it more adventurous. All focus on external barriers, in the circumstances of teaching. Is this plausible? Would it be easy to make teaching and learning adventurous?

One curious feature of virtually all reformist writing about teaching from Dewey on is that no one has even raised these questions, let alone tried to answer them. Theorists who seek to reform the practice of teaching write nearly exclusively about the practice of learning, not about teaching. Dewey, Bruner, and others offered extended accounts of how children learned, or

should learn, but they gave little attention to how teachers taught, how they should teach, or to the nature of teaching practice. One reason for this curious state of affairs is that these theorists considered teaching to be a simple reflex of learning. They seem to have thought that they were writing about teaching when they were writing about learning--an assumption that most psychologists and many others in education make. Once the rules or laws of learning were figured out, it is assumed or asserted that teachers would simply have to follow them and children would learn. Or perhaps books written according to the rules would be put in students' hands, and they would learn despite teachers' ignorance of the rules. This helps to explain why so few reformers ever inquired about the demands that adventurous teaching would make on practice: They simply assumed that teaching followed from learning, that their analyses of learning had cracked the problems of teaching. It also helps to explain why, until very recently, there has been little inquiry into teaching as a practice, that is, into the problems that teachers must solve, the skills, knowledge, and other resources required to solve those problems and related matters. Such omissions may have been plausible in the first blush of enthusiasm for reform, but they seem indefensible after many decades of accumulating evidence that adventurous teaching is rare.

A last peculiarity in the explanations considered here is that they all accept a narrow scholastic focus. Researchers and reformers see the sources of immobility in teaching in the schools' social, political, and organizational circumstances. This is understandable in light of reformers' view that adventurous teaching can be had anywhere, that if such teaching does not exist it is only because schools have not tried to produce it. And it is particularly plausible in a society saturated with professionalism. For faith in the power of professions to change and improve life often leads to a blindered

focus on professional operations and agencies, in both research and reform. But it is no more self-evident that the main influences on instruction are to be found in schools than it is that the chief influences on health are to be found in hospitals and doctors' offices.

These points suggest several large problems in the ways that educators and reformers have seen the improvement of teaching, and in the ways that researchers have explained the slow pace of reform. The problems have led me to reconsider both matters. And that has led me into the study of teaching practice, in an effort to better understand it. I sketch several elements of this reconsideration below. First, I locate traditions of reform in a larger history of instructional ideas and practices. I do so in hope of broadening perspectives on the historical situation in which both reformers and researchers find themselves. Second, I locate traditions of instructional innovation in the larger social organization of teaching and learning. I do so in hope of eroding the limits that professional parochialism tends to impose on most discussions of instructional organization. Finally, I offer an analysis of the nature of teaching practice, and of the problems that must be solved in this practice. I do so in hope of deepening our understanding of teaching and improving our appreciation of the demands that adventurous instruction makes on practitioners.

Instructional Traditions and Reform

Contemporary instructional practices embody an old inheritance. In this inheritance, teachers are active; they are tellers of truth who inculcate knowledge in students. Learners are relatively passive; students are accumulators of material who listen, read, and perform prescribed exercises. And knowledge is objective and stable. It consists of facts, laws, and procedures

that are true, independent of those who learn, and entirely authoritative. These ideas and practices have deep and old roots in academic habit. By contrast, reformers have a very different picture of instruction. They see learning as an active process of constructing and reconstructing knowledge. They see teachers as guides to inquiry, who help students to learn how to construct knowledge plausibly and sensibly. And they see knowledge as emergent, uncertain, and subject to revision--a human creation rather than a human reception. These conceptions of instruction are a radical departure from inherited ideas and practices. They also are a recent, still controversial, and very weakly developed product of modern intellectual culture.

Consider first the view that knowledge is purely objective--that it is discovered, not constructed. This notion has deep roots in medieval Europe. Recall that educated men of that age worked from hand-copied manuscripts that had survived the collapse of a glorious Empire, or found their way into Europe from more sophisticated eastern civilizations. Educated Europeans attached great esteem and authority to these rare, often sacred texts. They were studied and copied with great care, their contents memorized and analyzed with minute attention and considerable deference. In medieval reverence for the text we find one source of later ideas about the objectivity and special authority of written knowledge.[24]

The Protestant Reformation strengthened this tradition, for reformers sought to get back to the holy old sources that the Church had monopolized and to reorient worship accordingly. Luther probably was more convinced of the absolute truth of holy texts than were the Bishops of Rome, and more committed to literal bible study. Early Protestantism strengthened respect for the objectivity and authority of written knowledge, adding to medieval foundations on that point.[25]

Some heroic histories of science have held that such respect for intellectual authority was destroyed in the age of Newton and Voltaire. But the religious sources of respect for the authority of written fact endured for centuries. Most of Europe remained Catholic, after all, and the Counter-Reformation not exactly a liberal movement. In addition, the individualistic fruits of the Reformation grew very slowly within most Protestant denominations: Most were state establishments in which orthodoxy was carefully guarded. Even in the more individualistic American colonies, literal reading, remembering, and recitation seem to have been the rule well into the nineteenth century. Little in the early modern history of religion eroded respect for the authority of written knowledge.

Early modern scientists did sometimes attack religious belief, but science did not destroy respect for intellectual authority. Scientists and philosophers in the seventeenth and eighteenth centuries worshipped a rational Nature. They believed in the objectivity and authority of sciences that would open nature's lawful heart to investigators. The age of Newton and Voltaire began to replace reverence for the authority of revealed text or established church with reverence for the authority of objective and rational natural facts.[26] And as the facts of Natural Philosophy were discovered, they were written down in books. In an age in which scientific experiments were restricted to a tiny minority that had the required knowledge, time, and money, the best that literate men could do was read. The written materials of science became a new doctrine. It was studied and recited as faithfully, and often as mindlessly, as the old doctrines. The revolutions of modern science, of course, radically changed the conception of knowledge, how it was derived, and where its authority lay. But these revolutions did little to disturb

reverence either for the objectivity of fact, or for the authority of the books in which facts resided.

During most of the modern age, then, there was little argument about the objectivity of knowledge, nor about the great authority of such knowledge, even though there was dispute about which sort of knowledge was true. In all of the European and American traditions, religious and scientific, knowledge was believed to be factual, objective, and independent of human distortion. Only very recently have these old and deeply rooted ideas been broadly questioned.

A second element in our old scholastic inheritance is the idea that teaching is telling. In medieval Judaism and Christianity, the teacher was a voice for authoritative knowledge which originated elsewhere. He was a pipeline for Truth. The teacher's assignment included codification and clarification of established knowledge, in written commentaries on texts, the resolution of disputes between authorities, or among students, in commentaries, and it included passing knowledge on to students in texts and lectures. Teachers were the center of instruction.[27]

Teaching as telling appears to have survived early modern Europe more or less intact. Philippe Aries has shown that in a small circle of elevated families, more gentle practices of child rearing began to grow in the late middle ages or early modern era.[28] But the character of school instruction remained traditional, and formal instruction was limited to a modest fraction of the population.[29] Churches were the only institutions of popular teaching until the nineteenth century, and there seems to have been no more room for give-and-take with the laity in Calvinism and Lutheranism than in Catholicism.

Traditional instructional practices persisted through the Enlightenment. While this may seem contradictory for an Age of Reason, nearly all schools

began as religious establishments. Teaching was heavily influenced by the traditional pedagogy that teachers had seen in their earlier school and university classes, and in church.[30] In addition, the Enlightenment view of mind as a blank tablet, ready to be inscribed by experience, did little to dislodge the inherited idea that teaching was the didactic telling of truths.

The dominant Western traditions of teaching had a strong didactic cast, then, well into the nineteenth century.[31] In both religious and secular practices, teachers were persons of authority. They had special knowledge. Their task was to pass this knowledge on, intact, to students.

The notion that learning is a passive process of accumulation, a third element in our scholastic inheritance, was quite consistent with these views. The idea that people learn by listening, reading, practicing, and remembering made perfect sense in medieval Europe, when knowing meant taking possession of material already extant. The idea that quiet attention, obedience to teachers, and recalling and repeating material were evidence of learning was probably reinforced by early Protestantism.[32] For, in addition to their textual literalism, the new denominations were obsessed with human sinfulness. In Calvinist and Lutheran doctrine, growing up meant learning to control devilish impulses. In mainstream Protestantism upbringing was a contest for young souls, in which didactic instruction and strict discipline were needed to tame the wild spirits. Children who wanted their own way were viewed as willful, disobedient, or devilish. Obedience was a sign of religious virtue.[33]

The qualities in children that have been celebrated in more recent traditions of pedagogical reform--independence of mind, spirited inquiry, and a willingness to strike out on one's own--thus were identified with sinfulness in early modern Europe. The new philosophies of the European Enlightenment

reversed this view radically in one sense: Children were pictured as morally neutral rather than sinful. But childish minds also were portrayed as passive receptors: A powerful new instruction was needed to replace the old ecclesiastical messages. The ideas that children would make sense of things on their own and would learn the right lessons if left to themselves did not appear until the end of the eighteenth century.

All the extant evidence about instruction in the seventeenth and eighteenth centuries supports this account. Methods varied, but most teaching proceeded as though learning were a passive process of assimilation. Students were expected to follow their teachers' directions rigorously. To study was to imitate: to copy a passage, to repeat a teacher's words, or to memorize some sentences, dates, or numbers. Students may have posed questions in formal discourse, and perhaps even embroidered the answers. But school learning seems to have been a matter of imitative assimilation.[34]

Compared with this venerable inheritance, traditions of reform were born yesterday. The notions that children had distinctive ways of thinking, that they could make perfectly good sense of things themselves, and that they would only learn well when these things were taken into account seem to have appeared in America only in the early nineteenth century. They spread in succeeding decades, but slowly. In the middle of the century a few school reformers--Horace Mann and Bronson Alcott among them--argued for a gentler pedagogy, and respect for children's uniqueness.[35] A few contemporary authors of teaching handbooks and school texts made similar arguments.[36] The new tradition was enriched by many sources later in the century: the importation of Froebel's ideas; a growing volume of homegrown writing about a new pedagogy after the Civil War; the establishment of a few normal schools dedicated to a gentler pedagogy; and the growth of the child study movement.

By the time that John Dewey began writing about education about a century ago, new conceptions of children's thinking and learning were thus becoming more available. Instructional experiments also were reported more frequently. More than a few teachers must have had a brush with these notions, for the texts and handbooks went through several printings, and there were articles and reports in educational and popular magazines. In addition, some teachers attended the reformist normal schools or their summer institutes.

But these were early ripples, not a tidal wave. Turn of the century reports from higher education and professional meetings suggest that the new ideas were far from common. And contemporary accounts of classrooms revealed that the gentler pedagogy had made only a modest dent on traditional practice, at best.[37] In addition, the new traditions had just began to develop when educators were swamped by a real tidal wave: A deluge of elementary students, including huge numbers of immigrant children, washed into public schools late in the last century. One reason this slowed the new tradition of pedagogical experiment was that educators had to scramble simply to keep from sinking under the tide of bodies. Another was that most schools responded to the huge enrollments with batch-processing methods of instruction and school management.[38] On both counts, educational expansion created many barriers to the progress of a new pedagogy that had not existed before.

Traditions of instructional reform developed further during the twentieth century and the process continues today. The notion that learning is a process of active construction rather than passive assimilation, for example, is still quite novel. John Dewey advanced a version of this view in the early years of our century, when he argued that school curricula should encourage children to reconstruct the great heritage of extant knowledge by a process of guided reenactment. But he did so in an age when most scientists and fans of

science pictured knowledge as solidly objective and enduring, when the reigning psychology pictured the mind as more a passive receptor than an active creator of knowledge, and when Dewey and other reformers agreed that most school learning was in fact passive--that students added nothing to it, even with what psychologists now term students' "misconceptions." The objectivity of scientific knowledge had not yet been called into serious question, and other limits on scientific understanding did not begin to appear until decades later. The more radical notion, that scientific knowledge itself is constructed, not simply discovered, that science is more a feat of disciplined imagination than of quarrying hard facts, has begun to gain some scientific acceptance only in recent years. And the idea that minds actively construct knowledge is only beginning to be explored in psychological research and to be broadcast in educated opinion (despite earlier philosophical intimations and announcements).

* * * *

Recent efforts to make teaching more adventurous thus are a modest and recent chapter in a much larger and older story. Our struggles over Dewey's Progressivism, Discovery Learning, and related reforms are only a few episodes in a gathering collision between inherited and revolutionary ideas about the nature of knowledge, learning, and teaching. In the long perspective of this historic clash, recent reform ideas resemble early manifestoes in a long revolution, or fumbling first steps down an unfamiliar path. It seems possible or even likely that these episodes will turn out to be only the first chapters in a much longer saga. If so, we could expect to learn much more about both traditional and innovative instructional doctrines as the arguments sharpen, and as some advocates on both sides try to practice what they preach. But we also can expect that such learning from argument and practice will be

slow. After all, efforts to sort out the intellectual content and practical implications of both traditions have only just begun, under the pressure of conflict and challenge. This is true even in the United States: While it is the nation most deeply committed to the new pedagogy, efforts to try the new ideas out in practice here still are isolated and quite fragmentary. Other countries, like France, Germany, or Spain remain largely untouched by new instructional ideas and practices. It seems reasonable to suppose that we are working on the frontiers of this great collision and are far from a mature grasp of what the new tradition implies for our understanding of instruction, let alone for the practice of teaching.

Social Organization of Practices

By itself, of course, the great age of one tradition or the youth of another proves nothing. Revolutions occasionally seem to sweep everything before them. But there is no sign of such a revolution in instruction, even though reformers have repeatedly proclaimed it. What is more, traditions of practice do not exist in an academic vacuum. All instruction subsists within social organizations, and they can affect the progress of new ideas and practices. Families, neighborhood gangs, and factory work groups are all organizations in which instruction occurs, almost all of it informal teaching and learning. Schools are another sort of organization, one that is dominated by formal instruction and scholastic learning. Reformers work on schools, but the extent of congruence between scholastic and informal instruction could influence the progress of reform. In addition, most schools are part of larger organizations that we call educational systems. One way that these systems affect practice is through the transmission of knowledge about practice--including critiques of inherited views, ideas about reform, and

examples of improved practice. This is particularly salient to any discussion of reform, since many changes in practice require new knowledge. The instructional reforms discussed here certainly do, at least so the reformers have argued.

Popular and Scholastic Practices

Many practices are organized as very distinctive specialties. Plumbing is an example. Few non-plumbers do much repair or installation. Earning a license and setting up practice is generally quite restricted. Legal requirements for municipal approval of repairs and installation often virtually mandate the use of master plumbers. And the tools of the trade are costly to acquire, and not easy to use well. As a result, relatively few adults practice much unlicensed plumbing, and few children learn much about plumbing.

Teaching also is organized as a specialized craft. There are restrictions on entry to practice. Becoming a teacher is fairly costly. The work is commonly conceded to be difficult. And there seems to be a good deal of specialized craft knowledge. Despite these specialized features of teaching, there also is an extraordinary amount of unspecialized instruction. Most adult Americans are unlicensed teachers in a great range of matters. This work includes everything from such basics as teaching children language and the conduct of social interaction to such ubiquitous incidentals as teaching children and other adults how to ride a bike, drive a car, tune a television, or purchase groceries. The extraordinary amount of unspecialized instruction signals an equally broad range of unspecialized learning.[39]

It seems likely that we learn a great deal from these popular practices of teaching and learning, about teaching and learning. This matter has been little probed in academic research on teaching,[40] but there is a good deal of

indirect evidence. Many studies have shown that family and community influences on children's learning are more powerful than the schools' influences.[41] These results are consistent with evidence on the political attitudes that schools try to teach: Many studies show that family and community influences on the development of these attitudes in students outweigh those of schools.[42] In addition, children communicate among themselves about the content and methods of instruction, and there is plenty of evidence that they influence each others' academic learning. It seems likely that this pattern also holds for children's learning about teaching and learning. It is difficult to see how they could be so strongly influenced by community and family in the content of instruction and not also be influenced by the modes of instruction themselves. How could students learn from the message without learning from the medium?

What do children learn about teaching and learning from these unlicensed, popular practices of instruction?

Systematic evidence is spotty, but it suggests that family and community instruction is mostly traditional. Studies of child rearing find that didactic instructional practices are very common. Parents are less likely, for instance, to explain than to simply tell children what to do. They are less likely to question than to command.[43] Studies of attitudes about education also find that traditional ideas and values, such as belief in strong discipline and acceptance of established authority are very common.[44] These studies also show that traditional practices and attitudes are most common among less urbanized, more religious, or working or lower middle-class Americans.[45] Children from these sectors of society are highly likely to arrive in school with well formed and distinctly traditional attitudes about teaching and learning. Research on child rearing also shows that the parents who are most likely to employ elements of the new pedagogy at home, or to

support it at school, are highly educated and cosmopolitan. But even these progressive parents seem to be a minority of highly educated parents: Most seem to have quite traditional ideas about what should be taught in schools, and how. Finally, the relatively few schools that adopt an adventurous pedagogy generally enroll children from unusually advantaged homes.

These points fit with my historical account of knowledge, teaching, and learning. Both suggest that the old scholastic inheritance has been transmitted at least as much by informal as by formal instruction. Phillipe Aries, among other scholars, argues that this inheritance rests on popular practices of teaching and learning that are conservative in character, and have been passed down unwittingly from medieval times.[46] These popular traditions have been slowly eroded by more cosmopolitan instructional ideas and practices in the last few centuries, but the old ways are still firmly established. One reason is that the new pedagogy seems to be rooted in a distinctively cosmopolitan and upper middle-class style of family life, in which parental discipline is self-consciously relaxed, in which children have plenty of money and free time, and need not work, and in which personal independence is highly valued. The spread of the new pedagogy outside of school thus seems to depend at least partly on the expansion of both economic affluence and cosmopolitan moral and political values to new segments of the population. While there has been some expansion of this sort, there is little evidence of great change. Most high school students still work, and a very large fraction for a very large fraction of their time. Most parents' attitudes about child rearing still seem to be quite traditional. And while prosperity has increased in the United States during this century, the distribution of income has changed only slightly and inconsistently.

Another reason for the slow spread of the new pedagogy is that it is a regular target of political attack. Pressure groups and public officials frequently press traditional ideas on school boards, administrators, and teachers. Parents often press them on schools, when they find that they cannot understand their children's homework. Campaigns against frills, newfangled methods, and educational reform have been a recurrent feature of American school politics since the inception of public education. Many educators and local districts carefully avoid new ideas and practices and teachers who might embrace them.

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Most reformers have assumed that traditional instruction is rooted in teachers' bad habits and that it is an obsolete, boring, stupid, and needless imposition on children. In a sense this is not surprising: Reformers have been broadcasting the idea that children are naturally adventurous learners for roughly a century. Most also have argued that they would be so in schools, if traditional teachers would only get out of the way. But my account suggests another view: that traditional teaching in schools echoes and reflects popular practices outside schools. The conceptions and practices that reformers wish to replace thus are not simply the needless impositions of bad old boring teachers, as Dewey and most reformers since have asserted. The instructional practices that reformers wish to eliminate contain views of knowledge, teaching, and learning to which many parents, teachers, and students have deep loyalties. In many cases, reform ideas and practices are an imposition on these loyalties. What is more, these old views and practices can be reasonably defended (and have been, by I.B. Kandel and W. Bagley, for instance), even if they are unpopular in many academic circles.

Reformers also have concentrated on schools, in their efforts to improve instruction. They have tried to change teaching methods, texts, academic knowledge, and instructional organization. This too is unsurprising: Most reformers have been academics of one sort or another, committed by profession if not experience to the efficacy of academic work. And in any event, they could hardly revise family life. But my account suggests that school instruction floats on a sea of generally traditional popular instruction, and that such unlicensed teaching has an historical life of its own, apart from schools. Efforts to make schoolteaching more adventurous thus occur within a society in which unspecialized and largely traditional teaching and learning go on everywhere. The old pedagogical inheritance is passed across the generations by families and communities, outside the stream of formal schooling, as well as inside it by teachers and students. These popular instructional practices slow the reform of academic practice. It seems painfully--and professionally--shortsighted to believe that inherited practices of teaching and learning could easily or quickly be changed, merely by changing school learning and teaching.

School System Organization

I noted a few pages earlier that the transmission of knowledge about practice is another way in which social organization can affect instructional reform. School systems vary considerably in their capacity to gather and transmit knowledge about practice and its improvement. Some systems (The United Kingdom, Singapore, and some states in Australia, for instance) employ formal inspection as a way to collect and spread knowledge about good instructional practices among teachers and schools. Other school systems have few or no such avenues of internal communication. Some systems are large and

decentralized which makes communication difficult, other things being equal. Others are small and centralized, which can reduce barriers to the exchange of knowledge.

The organization of U.S. education generally seems to impede communication about practice. American schools sprawl over so large a country, and are organized in such a decentralized and fragmented fashion, that it may not be accurate to describe them as a system. While there is plenty of communication within and around these schools, there appears to have been only sporadic and limited exchange of knowledge about practice and the reform of practice. Communication about adventurous teaching has been especially limited.

Why?

One reason is that most of the intellectual inspiration for such instruction has emanated from academic intellectuals in elite institutions of higher education. John Dewey, Jerrold Zacharias, Jerome Bruner, W.H. Kilpatrick, and Theodore Sizer are among the leading figures in these traditions. They and many of their improving colleagues held posts at Columbia, Harvard, The University of Chicago, Massachusetts Institute of Technology, Brown, and other pinnacles of academic excellence. Institutions of this sort also are the sources of most academic research, whether in the sciences, the social sciences, or the humanities. They have been the institutions from which much criticism of public education as mindless and boring was launched during the Progressive era, the 1950s, and the last decade or so. They were the intellectual source of the curriculum reforms of the late 1950s, and the places in which most of the curriculum development was carried out. They also are the institutions in which the new cognitive or constructivist psychology, presently regarded by many academics as a basic rationale for instructional reform, flourishes. These institutions are thus the center of the academic universe; their faculties have great prestige.

But prestige does not necessarily translate into influence on practice. For one thing, these institutions at the top are quite remote from the thousands of higher and lower schools in which nearly all teaching and learning occurs. While faculty and administrators in these institutions sometimes fervently wish to influence these other, lesser schools, they no less fervently wish to retain the great status, accorded to those at the top, which so distances them from the schools they wish to affect. Even in placing their own graduate and professional students in other universities, they strive to secure positions in similar institutions rather than the lesser schools. And generally, graduate students trained in the best institutions tend to work in such places, while students trained in lesser schools rarely find their way to faculty positions at the top, usually winding up in the sorts of less selective institutions from which they came. If graduate training is an influence on instructional practice, that influence rarely seems to cross the great divide of academic status that separates a few dozen research universities from thousands of lesser institutions.[47] And, of course, only a tiny fraction of public school teachers are graduates of the highly selective institutions at the top. Most schoolteachers are educated in unselective institutions in which mass education is the order of the day.[48] The education of faculty in lower and higher schools thus offers few ways for critics of traditional instruction, in the great colleges and universities, to influence teaching practice.

But even if we restrict ourselves to ideas about practice, the elite centers are less influential than their great prestige might suggest. For these great institutions have devised a unique mission: research and the production of new knowledge. Their distinction is partly due to their faculties' discoveries and academic production, and to their education of new

producers and discoverers. But the mass of colleges and universities, and nearly all elementary and secondary schools, exist to teach, to provide day care, to prepare students for further specialized education and work, and to grant degrees. Producing new knowledge is not a major and often not even a minor part of their work. And consuming it usually is driven out, both by the pressure of other work and the lack of any production. Staying in touch with new knowledge that has been produced in the academic centers thus is not a high priority for their faculties. It is, in fact, superfluous for most purposes of life and work in the vast academic hinterlands. Some use it as a way of "keeping up," and staying in touch.[49] But for those who do not write--which is the huge majority of U.S. teachers, whatever their institution--it is a matter of personal preference, not occupational necessity. Most teachers in the academic hinterlands have no good reason, save curiosity, to consume faculty production from the central academic institutions. This restricts the influence of instructional research and criticism carried out at the great research universities.[50]

Another reason that the great centers of learning have contributed little to the reform of instructional practice is that their faculties are not known for great interest or accomplishment in this practice. Teaching is not the highest faculty priority at these universities, nor are many of them noted for excellence in instruction. Even the study and improvement of teaching is something that evokes either ambivalence or hostility from most faculty members at such places. In addition, teaching in these places, excellent or not, generally is traditional lecture and recitation, as it is nearly everywhere in American higher education. It appears that college and university instruction has changed little for generations.[51] So, even if the barriers to the transmission of ideas or practices described above were much more modest,

the pedagogical examples that faculty at the great universities presented would be little different from that of their less eminent colleagues, and not much of a force for change.

In fact, only a handful of educational institutions, higher or lower, assign a high priority to cultivating the reforms of instruction discussed here. Bennington, Sarah Lawrence, Bard, and a handful of sister colleges are centers of such practice,[52] as are Shady Hill, the Cambridge School, the Prospect School, and a few dozen other elementary schools. This is a small and generally selective group of institutions. Most are private, charge sizable fees, and admit only academically able students. They have succeeded in keeping traditions of student-centered practice alive for several generations, which has been no mean feat. But the circle of institutions has not expanded much during that time, and may have contracted. In addition, only a few efforts have been made to educate new recruits in this sort of teaching.

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So, the great academic centers, from which the most potent attacks on traditional pedagogy have been launched, are not well situated to influence instruction in most educational institutions. Nor are they places in which the new pedagogy is particularly cultivated. Efforts to nourish that pedagogy are made in other schools, but they are few in number, selective in character, and small in influence. The social organization of U.S. schooling seems to reinforce traditional teaching and to retard the spread of reform ideas and practices. John Dewey might have seen in this situation those gulfs between theory and practice that he so often deplored. But the gulfs seem wider and their existence more settled now than when Dewey began deploring them, nearly a century ago.

From this perspective, Dewey and the other left-wing Progressives resemble nothing so much as early missionaries in a strange land. Like many

people of the word, these emissaries directed their hopeful messages toward an unfamiliar place. As such people often do, they assumed that preaching, along with a few examples of good works, would carry the day. The curriculum reformers of the 1950s also were academic missionaries. And like most of Dewey's allies, they chose to preach from their high home ground, rather than working in the strange lands they wished to convert. The word can be powerful, especially among those who live by ideas: academics at the great research universities, the left-wing Progressives, and most current critics of traditional instruction. But much historical experience and many studies reveal the very modest effect that uplifting doctrine, whether scientific or revealed, has on practice. It is not surprising that many pedagogical reformers have seemed to cry in an academic wilderness.

While some may find this account discouraging, I have not argued that reforms of instruction have failed, or that they will. I have instead tried to place these reforms in a perspective that might be useful both to reformers and to those who study such work. I argued earlier that those who seek to encourage adventurous teaching and learning work at the frontier of an historic collision between traditional and innovative conceptions of instruction. And I argued that reformers also work at the edges of deep social divisions: between schools that offer formal instruction and many other social organizations that instruct informally and often traditionally, and between a few select centers of instructional research and criticism and the great mass of unselective agencies of teaching and learning.

One can never know certainly where one stands in history or society. Estimates of historical position and social situation are imprecise at best, and often contested. But we make estimates, thoughtful or not, and often act accordingly. Different estimates of where one stands in history--even among those who agree on where it is headed--can yield very different conceptions of

what is possible, and what is to be done. These matters have rarely been discussed in the American movement for instructional reform, chiefly because reformers assumed that victory soon would be theirs. They thought that they worked close to the culmination of a great but swift change in learning and teaching, that history was not only on the side of reform, but was pressing vigorously at their backs. All this considered, it is hardly surprising that they have been persistently surprised and disappointed. Nor is it surprising that their thoughtless optimism about the ease of making teaching more adventurous has fed a growing pessimism about its possibility.

I have urged consideration of a different view. The advocates of adventurous instruction may be working near the beginning of a great, slow change in conceptions of knowledge, learning, and teaching. If this supposition is worth entertaining, it implies others. In retrospect we can see, for example, that those who begin social revolutions are not noted for the same sort of accomplishments as those who bring them to a close. The early work involves exploring alternatives, inventing new social forms (of which only a few may survive and succeed), creating durable movements for and strategies of change, and devising ideologies that will nourish the knowledge and commitment that may advance the cause. At the end of most revolutions, by contrast, there has been little time for exploration, experimentation, and invention. The top priorities have been taking possession of disputed institutions, consolidating power and ideology, and disposing of old enemies.

If different estimates of historical position yield different evaluations of the tasks of reformers, they also imply different estimates of success of reform. It would be unwise to assess the early steps of a revolutionary movement in terms appropriate for its conclusion, among other reasons because that would create an illusory sense of failure. But there is reason to suspect that this has happened in American instructional reform, and that it

has had just such defeating effects. Researchers have for the most part simply accepted reformers' assumption that adventurous teaching would be easy because adventurous learning was natural. There has been little discussion of what standards of success and failure to apply in assessing these reforms. The Romantic view that the new teaching would be sweet and its success swift has contributed to the conclusion that instructional reform has been slow, and has perhaps gone sour. That conclusion may be fair, but it may not. For no one knows whether we are at the beginning of a long revolution in ideas about teaching and learning, or merely in the grip of a long Romantic dream. Researchers and reformers alike might do well to take less for granted in this point.

Teaching Practice and the Risks of Reform

I noted earlier that there has been little analysis of teaching as a practice. While many researchers have studied teaching, few have considered the nature of this practice. Few have explored the distinctive features of teaching, or compared this practice with others. Few have tried to figure out what the key problems of this practice are, or what sorts of resources are useful in solving those problems. Many useful perspectives have been brought to bear in studies of teaching. But few commentators have tried to cultivate a perspective that is rooted in the distinctive features of this practice.

In addition, the Romantic assumption that adventurous learning is natural has kept most advocates and students of reform from trying to understand what the new instruction might require of practice. Though reformers have deplored the sad state of teaching in American public schools, they have seen no great obstacles to improvement. They have argued that teachers simply had the wrong books, or used the wrong methods, or worked in the wrong conditions, or had the wrong sort of education. Like most good school-haters, reformers have

assumed that the problem lay in bad institutions or in the nasty old past. Once the institutions were changed, or curriculum pointed in the new direction, children and teachers could adventure off together. Everyone believed that such teaching would be very different, but hardly anyone thought it would be very difficult.

The intellectual designs of research and reform therefore have embodied a sort of mutually reinforcing blindness. Few instructional reformers have probed their own program in ways that would have allowed them to understand its intellectual content or its implications for teaching and learning. And few students of teaching have considered this practice in a way that would give them a basis for understanding--or even curiosity about--the demands that reform would make.

I sketch below an account of teaching from a perspective of practice. I try to identify the distinctive features of this practice, the key problems that must be solved, and some of the chief influences on how these problems are set and solved. In light of this analysis, I then consider the likely fit between efforts to make teaching and learning more adventurous, and practices of teaching and learning.

Teaching: An Impossible Profession

Teaching is a practice of human improvement.[53] It promises students intellectual growth, social learning, better jobs, and civilized sensibilities. Teaching is one member of a modest but growing family of similar practices: Psychotherapy, organizational consulting, some parts of social work, and sex therapy are a few others. Practice in all of them is quite unique. Practitioners try to produce states of mind and feeling in other people or groups, by direct work on and with those whom they seek to improve. Emotional peace is one example of the results sought, and knowledge of

arithmetic is another. Others include organizational effectiveness and refined enjoyment of sex.

These ambitions, and the practices that embody them, are distinctively modern. Practices of human improvement are children of the belief, only recently invented in human history, that humanity can make itself over in the image of its own aspirations. These practices all propose to solve individual and social problems that not long ago were regarded as our inevitable burden, at best to be eluded in a world beyond death. Practices of human improvement are living testimony to our faith that ignorance, poverty, crime, anxiety, and other problems that have plagued humanity for time out of mind will yield to organized knowledge and skill.

Practices of human improvement thus embody, in many small ways, the great problems of defining and delivering human progress, and of deciding about the adequacy of what has been achieved. These are problems with which most modern governments have wrestled painfully, inconclusively, and often at great cost in time, money, hope, and even lives. They are among the chief problems with which the great modern social theorists and philosophers have grappled, with less effort and cost, but no more settled results. Regardless of this mixed and difficult record, practitioners of human improvement must solve and re-solve their modest versions of these same problems many times a day in classrooms, clinics, consulting sessions, and other settings.

Practices involving human improvement are, from this perspective, inherently problematic. Practitioners in them of course have much to do that is ordinary and even mundane. But their work brings them face-to-face with some of the most distinctively modern problems: the meaning of progress, the means of achieving it, and the difficulties of knowing what we have done, how

well, and how we did it, among others. These practices all are what Janet Malcom called impossible professions, though she wrote only of psychoanalysis.

Why? Wherein lies the impossibility?

It arises from the great difficulties of deciphering and delivering human salvation. These difficulties appear in three problems that lie at the heart of all of these practices. One is that while they promise personal betterment to clients, the nature of these improvements is uncertain. The means of producing them are unsteady, often mysterious. There usually is considerable conflict, inside practice settings and outside them, about the nature of improvement and the ways to achieve it. The practitioners' assignment is thus to produce what they typically cannot define with any precision--or at least cannot agree about among themselves--and to do so in spite of their frequent inability to be sure how results are produced when they are or to know why things go awry, when they often do.

A second general problem of human improvement is that practitioners depend on their clients to achieve any results. In most practices, practitioners rely on their own skill and will to produce results. They depend on clients or customers for approbation, applause, purchases, and the like. But in psychotherapy, teaching, and related practices, clients coproduce results. Students' and patients' will and skill are no less important than that of practitioners. Often they are more important. No matter how hard practitioners try, or how artfully they work, they can produce no results alone. They can only succeed if their clients succeed. Yet clients often can produce the results of practice, without practitioners, in self-study and other self-improvement programs. This connection between practitioners and clients can produce astonishing accomplishments, when they combine will and skill in a common effort. But they also can produce terrific tensions. The possible

achievements stimulate hopes for ambitious improvements in clients and practitioners, for the successes would be a great victory for both. But the possible failures encourage great caution, for if clients fail for having reached too high, practitioners will have little to show for their work save loss and even anguish.

There are many variations in the acuteness of practitioners' dependence, within and among practices. In addition, even when dependence is acute, practitioners have devised some ingenious means of distancing themselves from clients' struggles. But there are limits to the distance practitioners can create. They cannot work without clients, so great distance is impossible. In addition, it is difficult to find indices of practitioners' success that are secure against clients' failure, precisely because of the promises these practices make for the improvement of others. Workers in these practices therefore depend upon their clients and are vulnerable to them in ways unknown in any other human work.

Dependence and uncertainty interact. Practitioners who define improvement in complex and ambiguous terms increase not only the uncertainty with which they may have to deal, but also their vulnerability to clients. For the clearer and simpler a result is, the more likely it is that clients can achieve it, and do so with modest effort. Such results are appealing to many practitioners, for they promise at least modest success without the risk of great vulnerability to clients' abilities, interests, or momentary whims. More complex and ambiguous results require much more from clients, and often from practitioners. Practitioners who urge such results on clients--or who are urged toward them by clients--often hesitate to bank so much of their own success on a client's difficult performance. But whatever they decide, when practitioners weigh choices between more and less uncertain objectives, they

also weigh how much they are willing to depend on their client's will and skill.

Finally, human improvement is regularly difficult, quite apart from these two other problems. Even little children who want to learn multiplication often have great problems and learn little. One source of the difficulty is that such improvements can require much mental effort and emotional energy. Contrary to what American Romantics believed about learning, algebra and multiplication do not come naturally, even though they do come more easily to some than others. Even if one learns multiplication in it simplest form--rote memorization of "times tables"--most students must work hard to learn the combinations and to hold them in memory. They must additionally remember all the rules and operations that govern the multiplication process, so that they can correctly manipulate the many large numbers that cannot be memorized. Such work also requires emotional commitment, simply because of the volume of work and the extended application required to learn. Students must willingly mobilize the mental forces needed to remember the material and to use it correctly. That commitment almost surely increases as students' capacity to remember declines; if so, the less able learners are, the more commitment they must make to the work in order to learn. Furthermore, students must do these things more or less on trust, in the unconfirmed faith that the often unintelligible operations will be useful to them one day. The less able students are, the more important trust may be. Mobilizing and maintaining such energy, commitment, and faith are rarely easy. Good teaching and intelligent materials help, and clumsiness in these departments can make things more difficult. But good instruction does not eliminate the mental and emotional difficulties of learning, any more than technically refined rockets eliminate gravity. They only overcome the contrary forces more efficiently than clumsy alternatives.

If one seeks to learn more complex versions of multiplication, by understanding number groups and gaining insight into their combination, some of these difficulties may recede. But others may increase. Some students find it difficult to abstract from groups of things to groups of numbers. Others struggle with the notion of groups of groups. Others have trouble getting beyond an additive concept of multiplication. Some can puzzle their way through these matters, but find it difficult to match mathematical understanding to the algorithms commonly used to teach and do multiplication.

Educational improvement thus becomes more difficult, on average, as it becomes more attractive and adventurous. One way to reduce difficulty and risk in any of these practices is to simplify and clarify results. Mechanical learning of multiplication offers students less intellectual power than understanding mathematical groups and their combination, but it takes less mental effort. The old Romantic assumption that adventurous learning is easy because it expresses children's natural curiosity finds little support here. The parallels in other practices may be useful here. Patients often enter behavior therapy, for instance, in order to cope with problems of overeating. That requires recognition of a problem and mobilization of the commitment and energy to do something about it. Neither is easy. In addition, behavior therapy is by definition uncomfortable: physically painful, emotionally stressful, or both. But it is probably less difficult to suppress overeating within a schedule of rewards and punishments than it is to probe personal history in order to locate the sources of gluttony, and, by understanding and working through, overcome them. Physical punishments and rewards may be painful, but responding to them requires less emotional and intellectual investment than deep and sustained self-examination.

A second source of difficulty in human improvement is that it is often risky. Psychotherapy that effectively probes gluttony requires not only great

mental effort, but also that clients explore painful childhood deprivations, perhaps recalling and reliving experiences that once terrified them and that are still lively enough to keep them gorging. That is risky in part because of the terrors that those old experiences held, and in part because no patient can know at the outset, or even much later in treatment, whether he will succeed. Often they are quite uncertain at the end of treatment. Facing the old terrors can be bad enough: After all, one has learned to live with them, even if heavily and painfully. Reliving them may only make things worse, disturbing and perhaps destroying a difficult equilibrium. Even worse, perhaps one will face them in vain, causing much anguish but no progress. Patients who wish to change face a dual risk: the loss of familiar, more or less workable if also troublesome, versions of themselves; and the possibility that they will fail to become the people they wish to be. Students regularly face similar risks. Doing a little multiplication, even doing it badly, may not be entirely satisfying. Many students wish to do more, or better. But their present accomplishment is something they achieved. Often the error-ridden algorithms work in spite of themselves, and even if they work irregularly, they represent some accomplishment, something that was learned at a cost. Such achievements are not cast aside lightly, at least by many of their creators. But to make the commitment to learn more, or a different version of multiplication, often looks like just such a decision. At least it is to tacitly admit that what has been achieved is not enough, that the student one has become is in some sense inadequate. At the same time, as students weigh a possible commitment to learn more, many fear that they will fail. If they cannot master the skills and ideas that they wish to learn, or that they have been told they must learn, they risk not becoming the person they wish to be or have been told they should become. These little struggles are often enough to reduce students to tears or to provoke major anxiety

attacks. Yet they have been little explored. At least part of the reason is that old American faith that learning is natural, that the best things in life are free.

Not all human improvements are equally risky or difficult, then, in part because they are not all equally uncertain. Behavior therapists attack obesity, smoking, drinking, and other troublesome habits with relatively clear and simple results: weight loss, an end to smoking, less alcohol consumption. Such definitions of results make it possible to frame treatments that also are relatively clear and simple: schedules of predictable positive reinforcements for reducing the unwanted behavior, and negative reinforcements for indulgence. There are various familiar parallels in education. By contrast, traditional psychotherapists and analysts define the results of their practice in more complex and ambiguous terms: understanding the sources of fatness, or the causes of smoking and drinking, and coming to terms with the problem. This may mean losing weight, but it might also mean accepting oneself as stout. Such relatively complex and ambiguous results lend themselves to equally complex and ambiguous treatments: probing early experience in order to recover the source of problems; reliving early feelings about problems both by recalling them and projecting them onto the therapist or analyst; making the old problems lively in the present, proving material to work through toward a more fruitful personal development. Adventurous teaching and learning find rough parallels here, not because of the theory of disease and cure, but because of the great complexity of results and treatments.

Thus, while uncertainty and dispute attend all conceptions of human improvement, the ends and means of each practice of human improvement can be defined in ways that reduce or increase uncertainty. But at best these reductions may work for the practitioners and clients who embrace them. Each of these practices has seen an increasing profusion of different and often

conflicting treatments, claims about treatments, and arguments about treatments and claims. There may be less uncertainty in some of the small treatment cells, but there is growing dispute and uncertainty about treatment overall.

Problems of difficulty and dependence interact. When teachers devise very taxing lessons, they create opportunities for students to make large intellectual leaps forward, and this holds out the promise of great success and satisfaction for all concerned. But such lessons also increase the probability that students will demur, avoid the challenge, ask for less demanding assignments, resist, or rebel. This would close off much chance of success for practitioners. The risks and difficulties of human improvement create contrary incentives, pulling practitioners and clients between stiff demands on the one hand and modest requirements on the other. Romantic advocates of intellectual adventure, and many students of such reforms have ignored such problems, in part because they accepted that adventurous learning was natural and mechanical learning an unnatural imposition on the young. Their lack of attention to risk and difficulty in learning and teaching may help to explain why, in studies of the implementation of such instruction, the chief explanations for implementation problems are external to learning and teaching: school organization, curriculum, political conflict, inadequate resources, and the like.

As practitioners struggle over appropriate ambitions for their clients' work, then, they also struggle with their own chances of professional success and satisfaction. Their practices present many opportunities to help others and many occasions for what seems selfless endeavor. But since their clients' successes and failures are in some respects their own, even practitioners' most selfless work is a vehicle for their professional success and satisfaction. The humans they improve include themselves.

Influences on Solving Problems of Human Improvement

I have argued that practitioners of human improvement face competing pressures. The promise of improving others, clients' wishes to improve, and the desire to succeed as professionals regularly pull practitioners toward more ambitious programs of betterment. But ambitious and demanding improvements increase the uncertainty with which practitioners and clients must deal. They increase the difficulty and risk of the work. They therefore increase the chances that clients will be reluctant to try, or unable to make much progress. These considerations pull practitioners toward less risky and demanding programs of betterment. This conflict is endemic to practices of human improvement.

But if these conflicts are found everywhere in these practices, they are not everywhere the same. Some practitioners have remarkable personal resources: They are knowledgeable, skillful, and committed, and can do outstanding work even under difficult conditions. Others, only modestly supplied with these qualities, struggle to do decent work under much less trying conditions. The social arrangements of practice have analogous effects. Some practitioners face these common problems of practice in rather difficult circumstances and so must do extraordinary work to produce results that would seem rather mundane elsewhere. Others, who work in much more protected circumstances, can get good results with much less effort or expertise. It is these social arrangements, and their effects on practitioners' problem solving, that I propose to discuss here.

One set of social arrangements is organizational. Agency selectivity and client choice are two of several organizational influences that might be mentioned. For on average, practitioners who work in selective agencies, or whose clients choose to work with them, seem more likely to wind up with capable clients than those who work in open admissions schools, clinics, or

social agencies, or with clients who have no choice. But there are different sorts as well as different degrees of selectivity and choice.

Consider selectivity first. Elite colleges and universities are much more selective than state universities, and state universities are more selective than most community colleges--if we consider the ratio of applicants to vacancies. But they all seem to employ similar approaches to selection of students. Elite institutions of higher education accept only a small fraction of those who apply, yet they accept many students who seem unlikely candidates for the practice of teaching. They were accepted because the admissions process for students mediates a large list of competing demands arising from alumni, different academic departments, sports departments, extracurricular activities, and worries about future fund-raising. These schools are very selective, if one thinks of the ratio of applicants to vacancies. But they accept a great range of students because the criteria of selection vary to reflect the wishes of many different constituencies. This also is the case, though not as markedly, at much less selective state universities. As a consequence, professors in elite schools are more likely to wind up with students who are capable and willing to take on hard academic work, than their colleagues in less selective schools. But they still are likely to wind up with many undistinguished and uncommitted students. Even though selectivity in the academic elite is extreme in one sense, it is not in several others. Few teachers in such schools have much part in the process, and many are at least partly dissatisfied with the results.

By contrast, psychoanalysts in private practice select their patients themselves or with the help of match-making colleagues. There are no committees and, if there is conflict in criteria of selection, it is internal to the practitioner. Analysts screen for commitment, capacity to pay, emotional fit, their own professional interests, and other things. But they do so to satisfy

only themselves, including their conflicts. They are therefore much more likely than their colleagues in state mental hospitals to wind up with capable patients who will work hard, take risks, and have a good chance to succeed in treatment--assuming that the demand for treatment well exceeds the supply. Analysts employ a different sort of selectivity than college admissions, with rather different processes and purposes. Because it is more closely tailored to the purposes of practice and is carried out by practitioners alone (or with one consultant), it seems likely to produce a better fit between practitioners and clients than do college admissions.[54]

One can think about client choice in roughly the same manner. Some practitioners work with clients who are compelled to accept, or at least endure their services, while others work with clients who eagerly sought them out. On average, the chances that clients will be willing to work hard and take risks are greater in the second sort of situation. But while true on average, the effects of client choice are powerfully mediated by agency selectivity. Psychotherapists who practice in state mental hospitals, like many teachers in public high schools, work with clients who chose their services. Yet the benefits of client choice in these cases are often modest or even negative, because both sorts of practitioners work in compulsory agencies with unselected clients or clients who are selected for their acute problems. Student choices in such high schools often reflect a preference for little or no improvement, rather than for hard work and big changes. And client choice in state hospitals may have little effect because most potential clients have few problems that are treatable by psychotherapy. By contrast, student choice of teachers in schools that are very selective is more likely to reflect a commitment to a particular subject or approach to teaching, for students are at least partly screened for academic ability and interest in schoolwork. As a result, students' choices are more likely to reflect a

willingness to work hard and take risks, even though teachers have little influence over who takes their classes. But even closer matching of client and practitioner can be observed in more selective educational situations, as in the work of some private tutors, teachers in music conservatories, or professors in graduate or professional departments of elite universities. In these cases, client choice combines with selectivity to produce more or less close approximations of mutual choice. And the combination of such choice with the effects of specialized selection increases the probability that clients and practitioners will work hard and succeed.

These organizational arrangements can be seen as resources of practice. For differences in selectivity and client choice can ease or exacerbate problems that practitioners face. When teachers, therapists, or consultants see only clients who have been carefully and mutually selected, the problems of practice are eased by organization, rather than anyone's expertise. Risk and difficulty are eased, for instance, in part because clients are selected for their capacities to take on difficult work and succeed in it. Practitioners' dependence on clients also is eased, in part because their clients are carefully selected for their willingness to work and other qualities that make it likely they can succeed. Practitioners take relatively modest risks in work with such clients, even in pressing them for ambitious improvements. For their clients are capable and committed, and in such selective situations there usually is a queue of at least equally talented applicants, waiting for their chance. If some clients fail to perform, practitioners can take others on instead.

Another way to put this point is that resources of practice often exist in a trade-off relationship with practitioners' personal resources. In the sort of situation just described, practitioners need not rely heavily or entirely on their own personal resources to produce good results, because the

organizations in which they work provide many compensating resources. But consider teachers or therapists who must treat anyone who applies, or who must practice with clients who have been compelled to see them. They work without the benefit of organized selectivity and mutual choice, which makes it much more risky and difficult for practitioners to press clients for serious improvement. This might be attributed to the likelihood that few clients have much interest in improvement in such circumstances or little capacity. Or, more generously, one might attribute it to circumstances that make hopeful clients hesitate to attempt improvement. Or one might point to both difficulties. But whichever view one chooses, the problems of practice are greater. If practitioners produce results that match those in more selective agencies, it will be because they do much more on their own. Often they have to work heroically, without much assistance from organizational resources and often in spite of many organizational obstacles. In cases of this sort practitioners must draw deeply on their personal resources, to compensate for the lack of organizational resources.

Social conventions about results are a second set of social arrangements that affect problem setting and solving. Such conventions arise from theories about social problems and their treatment, professional doctrines about practitioners' work, codes established by licensing boards, and the requirements of other public agencies. These conventions are not like items on a shopping list, easily entered and just as easily altered. But they are made by men and women nonetheless, and are changed by them as well.

One such convention concerns the allocation of responsibility for producing results. In most practices of human improvement, clients are assigned primary responsibility for producing the results of practice. Organizational consultants, for instance, offer their services to firms and agencies that wish to improve performance, to increase efficiency, or to

improve communication. But the consultants' responsibilities generally are limited. They define and locate problems, explore and explain their nature, and suggest solutions. Some consultants offer assistance in producing the results, in the sense that they provide training of various sorts. But they are consultants, technical assistants, helpers: The organizations they assist are in charge of execution. This arrangement is mutually beneficial for various reasons. But one consequence is that consultants' responsibility for results is greatly attenuated.

The same sort of thing can be said of psychotherapies. As varied as these therapies are, most assign primary responsibility for results to patients. Traditional psychotherapies have elaborate theories of disorder and treatment that center most attention on the patients' work. In order to struggle successfully with neurotic problems, patients must rediscover salient early experience. They must recall and relive it. Patients must transfer old feelings to the therapist. They must work through old feelings and new insights with the therapist or analyst, so as to comprehend and reduce the old barriers to development. Patients also must overcome resistance to all of the above and more. In all of these endeavors therapists are guides, helpers, invaluable companions, wise counselors, and even patient victims of transference. But however helpful they may be in these various roles, therapists are not chiefly responsible for results. The results of therapy and analysis are primarily the patient's work. In most therapies, practitioners are cautioned to avoid feeling they can produce results and to avoid giving patients the slightest hint that they could. For most treatments rest partly on the theory that patients must accept responsibility for their problems, feelings, and improvement. Therapists, it is believed, could not do the patient's work without destroying much chance of growth in their clients, and perhaps even making things worse.

Social conventions about results in schoolteaching are very different: Teachers are assigned heavy responsibility for students' learning. It is commonly assumed that all children can learn if only they are well taught. Inherited ideas about the efficacy of schools and the ease of learning have combined to create the sense that students will learn if only teachers will instruct. These ideas about schoolteachers' efficacy and responsibility are unique among practices of human improvement. They are unique even within teaching. Tutors and teachers in selective colleges, universities, and private schools are not assigned such heavy responsibilities. Their students are expected to share the responsibility for learning; often they are expected to learn well even when teachers instruct badly.

These beliefs about schoolteachers' responsibility for results affect their struggles with the common problems of practice. For instance, they enhance teachers' dependence on students, because they tighten the link between students' and teachers' success. The belief that students are primarily responsible for learning, and that teachers are only their guides and helpers--common in some other societies--loosens it. One might think it wise to keep this link tight, to enhance incentives for teachers to help students succeed. While true in a general way, these matters are never worked out in general ways, but always in particular situations. Success can be defined in many ways, and these are sensitive to the organizations in which teachers work as well as to beliefs about results. For instance, in schools that assign students heavy responsibility for results along with teachers, teachers often push their charges more and take more risks. One reason for this is that such schools usually accept only students who agree to a sort of social contract, who accept a large responsibility for performance as a condition of admission or continuation. Some exclusive secondary schools fit

this description, but so did the Harlem Street Academies and other schools that take only children who have failed elsewhere.

Why does a more equally shared responsibility for results give teachers leeway to press students harder? Part of the reason is that teachers everywhere depend on their students for success. If this dependence is managed under circumstances in which students are obliged to work hard and try to succeed, and in which they will be held accountable for not trying, teachers have a basis for expecting commitment to the purposes of their practice. They can manage their dependence on students for success by pressing students to try hard, to do their best. But if teachers must cope with this dependence under the assumption that students' learning depends heavily on them, and in circumstances in which it is difficult to hold students responsible for trying hard and doing their best, teachers can be quite vulnerable to students' disinclination to work. Just such circumstances exist in the compulsory, mass-enrolled, U.S. public schools. In this situation, one rational way for teachers to cope with their dependence on students--to increase the chances of their own success by producing success for students--is to find criteria of success that most students can achieve with relative ease. For if they pressed students very hard, many might fail. Some would resist, or rebel. Either or both would be troublesome. The convention that teachers are primarily responsible for students' learning, in a mass-enrolled, compulsory system, creates incentives for teachers to accept students' values, ideas, and ambitions. It pushes them toward definitions of knowledge and learning that will make it easy for many students to succeed.

Considered from a perspective of policy, one implication of this analysis is that the promise of success for all in a universal system creates pressures to avoid failure. For the greater the failure rate, the less the system has kept its promises. And since it is easier to avoid failure by reducing

criteria of success than by stiffening them, other things being equal, such promises tend to push systems of this sort toward easier standards. Considered from a perspective of practice, my chief point is that the allocation of responsibility for results is a resource of practice. Some societies, practices, and educational systems or organizations are richly endowed with this resource, because clients in them are expected to work hard and carry much of the burden of producing results. This does not mean that practitioners can coast to success, but it does mean that they will not be primarily held responsible for failures. Other practices and systems are poorly or negatively endowed with this resource. Practitioners are thought to bear primary responsibility for the results of practice. This often encourages them to redefine success in terms acceptable to the clients on whom they depend for success.

A second social convention about results that affects practitioners' problem solving concerns the extent of social consensus about the results of practice. Some schools or societies are torn by conflict over the aims of education, while others display much agreement. In Japan, Singapore, Korea, France (until recently), and other nations there has been relatively little dispute about the results of schooling. In addition, the consensus usually has been expressed in a few system-wide examinations, devised by teachers and others close to the system. The exams control school leaving and transitions within the first 12 grades. Consensus about results also can be observed in some schools or school systems in the United States, the result of deliberate action by teachers, parents, and school heads.

The degree of consensus about results affects practice. For example, it influences the extent of uncertainty with which teachers and students must cope. Systems and organizations marked by broad consensus on a few criteria of results give considerable focus to instruction. If students dissent from

the established purposes, teachers and classmates will point to the exams, to their great importance for school and career, and to the great weight that the community, the school, or society attaches to them. If teachers wander off the curriculum, students will say similar things to the teacher, the head, each other, and parents. Consensus about results also eases teachers' dependence on students: They need not attend closely to students' arguments about issues of purpose or to their lack of commitment to common purposes. Instead, consensus about results encourages students and teachers to work together toward a given common goal: doing well on the test. The existence of a common purpose that is taken seriously by society, that is clearly expressed in a criterion, and that is linked to curriculum helps to mobilize cooperation between students and teachers.

Social consensus about results also might be regarded as a social resource of practice. As I noted earlier, these resources exist in trade-off relationships with practitioners' resources. Teachers who work in systems or schools that have settled on results need not spend great energy or time mobilizing students' agreement on this point. Society has, in effect, settled it for them. But teachers who work in schools or systems that are torn by conflict over the purposes of schooling are deprived of this resource. They must spend considerable energy on uncertainty and dispute about results, and they are more vulnerable to students as a consequence.

The United States is such a system, or collection of systems. It is riven by disputes about the results of schooling. Education is highly esteemed by many Americans, but assigned low importance by others. Even among those who esteem it, there is deep disagreement over what sort of education counts, and why, and how much. Partly in consequence, there is a small blizzard of tests and other results standards. Most systems use at least several

different tests, and more are added regularly. Recently many states and localities have added tests of "minimum competency" to others already extant.

A few tests create modest pockets of consensus: The Advanced Placement exams and curricula are one example. But most U.S. tests complicate matters rather than simplifying them. They create confusion about what teachers and students are supposed to do and how well they are supposed to do it. Some of this shows up in local arguments about which tests students and teachers should be working toward. Some shows up in teachers' own conflicts about what they should be doing. This situation deprives teachers and students of resources of practice. Disagreement about results increases uncertainty and the need to struggle with it in classrooms. It also increases teachers' dependence on students. For teachers have no solid external criterion of results to which they can point and around which students can mobilize their own sense of purpose. Teachers and students must work out, by negotiation and persuasion, results that are agreeable to all, or most. This naturally gives students a large voice. In these cases, teachers and students must settle for themselves problems of purpose that elsewhere would be settled for them by society or their school.

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All practices of human improvement face impossible problems, arising from the many difficulties of defining and delivering on promises of personal and social betterment. But all practitioners do not face equally difficult versions of these problems. Those who work in highly selective settings, in which they choose clients and are chosen by them, are less vulnerable to clients than those who work in unselective situations. Those who work in institutions marked by strong consensus about results need not struggle with as much uncertainty about the ends and means of practice as those who work in a cross fire of argument. In these cases and others, social arrangements help

to solve the common problems of practice for some practitioners, while exacerbating them for others.

In theory, then, the problems of teaching are not at all unusual when compared with other practices of human improvement. But in fact public schoolteaching in the United States is distinguished by the extent to which social arrangements heighten the common problems of practice. Private tutors, graduate professors, and most psychotherapists practice in highly selective settings that ease the common problems of their work by presenting them with capable and committed clients, or with ways to distance themselves from responsibility for their clients' performances, or both. But most public schoolteachers in the United States work in compulsory and unselective institutions, in which there are few qualifications for entry or exit, and in which practitioners and clients have few opportunities for mutual choice. These circumstances heighten the problems of practice by making improvement compulsory and by presenting schoolteachers with many clients who are relatively uncommitted, incapable, or both. That creates powerful incentives for practitioners to adopt conservative instructional strategies. One common example is to simplify work so that most students can manage it and secure some success for themselves and their teachers. A common companion is to define knowledge rigidly, so as to reduce uncertainty for everyone concerned. Still another is to manage classrooms in ways that leave little room for dispute or other discussion. These are all common properties of schoolteaching in the United States.

Without ever considering the content of curriculum or the organization of schools or classrooms, then, we can see powerful pressures that drive schoolteachers toward extremely conservative instructional strategies. These pressures arise in part from the nature of the work and in part from the distinctive social organization of schoolteaching in the United States. Like

every other practice of human improvement, schoolteaching is an impossible profession. But unlike all the others, the social circumstances of schoolteaching tend to strip practitioners of the protections that help to make similar work manageable for many therapists, university professors, organizational consultants, and others.

Demands of Adventurous Teaching

Adventurous instruction makes distinctive demands on teachers. It opens up uncertainty by advancing a view of knowledge as a developing human construction and of academic discourse as a process in which uncertainty and dispute play central parts. It increases the difficulty of academic work by replacing memorization of facts and rules with disciplined inquiry and argument. And it invites teachers to depend on students to produce an unusually large share of instruction. In these ways and others, adventurous instruction proposes to bring teachers into much more vivid contact with the common problems of practice. Such teaching can be done, and done well. But to do so, ways to relinquish the old instruction must be found, and new strategies devised at the same time. Neither is easy.

Consider the problems of uncertainty and difficulty. Learning to "discover" or "understand" a subject often seems to entail getting students to hold several different, sometimes seemingly divergent, views of a topic in mind at once. In the case of multiplication, this might be reflected in the study of various ways to represent the combination of number groups. To solve the problem of multiplying 10 times 12, for instance, students might be asked to invent different ways to work the problem. Some might begin by adding 12 ten times. Others might add 12 five times, repeat it, and add the products. Still others might multiply 12 by 2, repeat that five times, and add the products. Others might multiply 10 by 10, and then 10 by 2, and add the

products. Each is a plausible though somewhat unconventional way to do and represent multiplication. Seeing the array, and discussing it competently, seems likely to advance understanding of multiplication.

But it would achieve this end partly by multiplying uncertainty about the topic. That would be a nearly inevitable result, at least in the short run, of confronting different versions of multiplication. It also would be a likely result of inviting students to explore the meaning and merits of various representations. For such explorations would dramatize the many different ways in which this simple arithmetical matter can be viewed, and that would raise fascinating but difficult questions about the nature of multiplication. Increased uncertainty would be especially likely if, as many advocates of such teaching argue, students probed these points in experiments, demonstrations, and discussions, and if they probed each others' reasons for representing multiplication in one way and not another.

Such work can be fascinating, and students could learn a great deal about mathematical reasoning from it. But in order to do so they would have to tolerate considerable uncertainty: about the nature of arithmetical problems; about the procedures for solving these problems; about what the answers are, and what an answer i.. and about how implausible answers can be detected, and plausible answers defended. If done well, this would lead on to questions about the nature of arithmetic, and what it means to know it. That would be all to the good: If done carefully, such work can be immensely illuminating. But it requires that students find ways to embrace uncertainty, that they adopt trying out--that is, hypothesis framing and testing--as a way of life in learning. To do so, teachers and students must devise instructional strategies that enable them to manage and capitalize on the higher levels of uncertainty and the more demanding thought required to manage it. Such strategies are available, but they make unusual demands on teachers and

students. They have been little investigated, but there is no evidence that they are easy.

Adventurous instruction is more difficult than conventional teaching. One reason for this, sketched just above, is that simplified conceptions of knowledge and learning require less mental effort than what we call understanding, or problem solving. While some students find rote learning frustrating, their frustration does not arise from its difficulty, but from what they see as its superficial and boring qualities. Another source of greater difficulty is risk. Adventurous pedagogy invites students to define and attack fundamental problems, to be intellectual explorers, to share their ideas, arguments, and intuitions with classmates and teachers. While one can learn much from such work, much of it is learned from one's mistakes. Students must be ambitious--which is a polite way to say that they must take intellectual risks--and ordinarily they must take them in classrooms in which a large and possibly competitive audience watches and listens. Instruction of this sort requires that teachers find ways to engage students more fully in learning, but it also requires that they find ways to reduce or otherwise manage the possible personal risks of such greater engagement. It is no mean trick to intensify engagement at the same time as easing its risks. Some teachers and students have worked out strategies to cope with this curious requirement. They have not been much explored, or even described, but there is no evidence that they are easy.

This brief discussion suggests that efforts to make instruction more adventurous strike close to the difficult heart of teaching. Teachers who try to work in this style must become advocates for uncertainty, trying to open up varied conceptions of knowledge. This ordinarily increases the difficulty of their work, in part because so many students seem allergic to it, at least initially. In order to succeed with such students, teachers must take on a

large agenda: to help students abandon the safety of rote learning; to instruct them in framing and testing hypotheses; and to build a climate of tolerance for others' ideas, and curiosity about unusual answers, among other things. Teachers who take this path must work harder, concentrate more, and embrace larger pedagogical responsibilities than if they only assigned text chapters and seatwork. They also must have unusual knowledge and skills. They require, for instance, a deep understanding of the material and modes of discourse about it. They must be able to comprehend students' thinking, their interpretations of problems, their mistakes, and their puzzles. And, when students cannot comprehend, teachers must have the capacity to probe thoughtfully and tactfully. These and other capacities would not be needed if teachers relied on texts and worksheets.

In addition, teachers who seek to make instruction more adventurous must take unusual risks, even if none of their students resist. For if they offer academic subjects as fields of inquiry, they must support their actions and decisions as intellectuals, not merely as functionaries or voices for a text. They must appeal to rules of inquiry, methods of proof, and canons of evidence for resolving disputes and settling uncertainty about the solutions to problems, rather than appealing to the textbook or the authority of their office. In order to do so, teachers also must be prepared to share authority. For how could students become active inquirers if their ideas and solutions were not taken seriously, accepted if plausible and well defended, and rejected only if demonstrably implausible? If academic subjects are to be taught as fields for intellectual adventure, students must learn how to become competent adventurers--that is, inquirers. They must learn how to frame problems and decide disputes rather than learning how to get the right answer. They must therefore be encouraged to assume the authority that comes with intellectual competence, rather than to fly blind on the authority of text or teacher.

When teachers embark on an adventurous approach to pedagogy, then, they open up an entire new regime, one in which students have more autonomy in thought and expression, and much more authority as intellects. But such autonomy and authority are difficult for many students and their teachers. They find it unfamiliar at least, unsettling, and even threatening. None of this is required if teachers proceed in the standard instructional format: They can rely on the authority of text, or on their official position, to cope with uncertainty or dispute about knowledge or procedure.

Another feature of adventurous instruction, therefore, is that teachers must depend on their students much more visibly and acutely. For if students are to become inquirers, if their knowledge is constructed rather than merely received, they must take a large responsibility in producing instruction. It is, after all, their ideas, explanations, and other encounters with the material that come to compose much of the subject matter of the class. If students do not pick up these broader intellectual and social responsibilities, most adventurous approaches to instruction simply will not work. But if students do pick them up, teachers will depend on these students more to produce the class. To do so, teachers must rely less on their own protected performances in lectures or recitation or on materials that they control, such as texts and worksheets. They must accept their charges much more fully as co-instructors. They must find ways to help students expand their intellectual authority--which implies some reduction or transformation in their authority. Teachers must find ways to extend their own dependence on students, which implies relinquishing many central instruments of their influence in the classroom. Teachers must make themselves more vulnerable, offering students opportunities to fail them, and even inflict painful wounds, in order to help them become more powerful thinkers. Such work can be exhilarating and rewarding, but it is not easy.

Conclusion

Teaching is a practice of human improvement. It promises intellectual growth, humane awareness, economic opportunities, civic consciousness, and many other virtues. Like other practices in this new family of human endeavors, teaching is an impossible profession. I do not mean that teaching cannot be done. I mean that each of these practices is a medium in which we now struggle with unavoidable but insoluble problems of human nature and destiny. Nor do I mean that teachers are really theologians or philosophers manqué; there is much in their work that is ordinary. I mean only that teaching, like some other practices, has become a regularized and professionalized occasion for coping with these insoluble problems. In earlier ages the problems were solved elsewhere, and if teachers dealt with such issues they appear mostly to have rehearsed and passed on the answers. But in a secularized world, in which human progress is the highest good, the practices that deliver such progress inevitably become a battleground for struggles about the meaning of progress, about the means to achieve it, and about how much we have achieved.

But if these difficult problems bedevil each practice of human improvement, they do not bedevil all of them in the same way. Most psychotherapies, for instance, delegate extensive responsibility for results--including decisions about when therapy has succeeded and can end--to patients. Most practices of human improvement are quite selective: Clients and practitioners choose each other, and clients often are selected with an eye to their commitment and other capacities for success. These and other ways of coping with the impossibilities of such work arise from various social arrangements of practice: conventions about results, and the organization of practice chief among them. I termed such arrangements resources of practice, in part because, like practitioners' personal resources, they ease practitioners' and

clients' efforts to solve the common problems of practice. But unlike practitioners' resources, these arrangements advance the purposes of human improvement without requiring much or any attention from practitioners. In consequence, these resources of practice permit practitioners and clients to dig deeply into their work together if they wish. Or they permit them to get decent or even good results with much less effort than would be required if the resources were reduced or removed.

Schoolteaching is distinctive, however, because it lacks most of these resources of practice. Most schoolteachers confront the insoluble problems of human improvement relatively naked, enjoying much less assistance from the social resources of practice than most of their colleagues elsewhere. This situation raises the costs, for teachers, of ambitious efforts to help their students improve. It increases the incentives for teachers to make conservative choices about instruction. And it reduces the incentives for them to cultivate the distinctive resources of their practice, chief among them care in the representation of knowledge, the cultivation of learning, personal conviction about the value of inquiry, and generosity toward learners.

This analysis does not entirely explain conservatism in teaching. Teachers' work is influenced by many other circumstances. Additionally, if all Americans had been educated as John Dewey wished, teachers' pursuit of adventurous instruction almost surely would be easier and more successful. But my account may add a bit to our understanding of teachers' strategic choices and to the difficulties they have had in efforts to make teaching and learning adventurous in public schools. For such instruction invites teachers to open themselves to the great problems that lie at the heart of their work. It invites them to frame a pedagogy that embraces uncertainty, that increases the risks of learning and teaching, and that enhances their vulnerability to students. Such work has been done, and can be done more. But it runs against

the grain. Practitioners and clients find some protection from the impossible problems they confront in all practices of human improvement. In most practices they find these protections easily, for they are built solidly into the social arrangements that frame practitioners' work: They are protected without much effort or even thought. They need only practice in the conventional ways, within the conventional arrangements, to find a way of working that is tolerable, and seems tolerably productive. But schoolteaching lacks most of those socially organized protections. It seems unsurprising that practitioners would organize their work to establish others, building within their practice some of the defenses that the social arrangements of practice create for their colleagues in similar trades. Nor should it be surprising that schoolteachers generally find it difficult or impossible to accommodate innovations that erode these protections. Or, rather, these things would be unsurprising, if our Romantic love affair with adventurous learning and teaching had not helped to blind us to the distinctive difficulties of this practice.

Footnotes

[1]Kaestle, C., Pillars of the Republic, New York: Hill and Wang, 1983, chapters 4,5,6; Cohen, D.K., "Loss As A Theme in Social Policy," Harvard Educational Review, vol. 46, no. 4, Nov. 1976, pp. 553-571.

[2]Twain, Mark, Life On The Mississippi, New York: Bantam, 1945, p. 44.

[3]Twain was one of the greatest school-haters, but he was hardly alone. James Fenimore Cooper's The Last of The Mohicans celebrates many of the same ideas. And despite Thoreau's arguments for education, he was no fan of schools.

[4]The Hoosier Schoolmaster, New York: Arno Press, 1962.

[5]Both The School and Society, and The Child and The Curriculum, two of Dewey's most popular books, depict what he called the "old education" as the result of misguided ideas about learning and teaching. In these and other writings, Dewey seems to assume that once teachers understand what he sometimes called the "laws of psychology," they would be in a position to set things right. This impression is reinforced by the account offered in Mayhew, A.C., and Edwards, K.C., The Dewey School, New York: Athaneum, 1966, chapters 2,3,4. The book reveals that Dewey and the teachers had no idea how difficult it would be to teach as he wished. Dewey confirms this in memoranda to the authors.

[6]Cuban, L. How Teachers Taught, New York: Longman, 1984, pp. 1-11. Though I raise some questions, I am much indebted to Larry Cuban's work in this book, and in several thoughtful essays.

[7]Dewey had many important colleagues, and he drew on a modest tradition of child-centered theory and practice. In some ways he seems more a great codifier and rationalizer of this tradition than an inventor. But he was the first great philosopher and psychologist of adventurous learning, and the first in this tradition who spoke to a national audience.

[8]Larry Cuban draws on many of these in How Teachers Taught, and in his more recent Teachers and Machines, New York, Teachers College, 1986.

[9]There has been an outpouring of research along these lines in the past 15 or 20 years. One of the seminal studies was Berman, P., and McLaughlin, M., Federal Programs Supporting Educational Change, (vol. 7), Santa Monica: RAND, 1977; another was Weick, K., "Educational Organizations as Loosely Coupled Systems," Administrative Sciences Quarterly, 1976, vol. 21, pp. 1-19. Since most research on American education is not comparative--either across types of institutions within the United States, or across nations within the same type of institution--the awkward issue presented here has not been much explored.

[10]These points are regularly rediscovered in the wake of successive efforts to change teaching. Many of them are nicely summarized, for the current reforms, in Sedlak, M., Wheeler, C., Pullin, D., and Cusick, P., Selling Students Short, New York: Teachers College, 1986, pp. 99-130.

[11]Teachers and Machines, pp. 51-71.

[12]Many critics of these reforms correctly note that the reformers did not take teachers' views into account, in planning their work. But this was no oversight. Many of the academics who pressed the reforms and devised the new materials regarded teachers as the problem, and sought to write books that would work in spite of teachers. See Powell, A., Farrar, E., and Cohen, D.K., The Shopping Mall High School, Boston: Houghton Mifflin, 1985, pp. 282-292.

[13]Powell, et al., p. 213.

[14]This theme is an old one in U.S. education. It is being picked up again, in the wake of critical assessments of the most recent wave of educational reform. See, for example, Snider, W., "Broader Focus Said Key to Next Wave of Reform Drive," Education Week, vol. 6, no. 30, 1987, p. 1.

[15]On curriculum change see, for example, Gross, N., Giaquinta, J., and Bernstein, M., Implementing Organizational Innovations, New York: Basic, 1971; on the 1950s curriculum reforms, see Powell, et. al., pp. 282-292; on administration, see Berman and McLaughlin, op. cit.

[16]Explaining the failure of reform has been an important theme in American educational research since the turn of this century, when reformers and commentators first noticed that instructional innovations were not having much effect. Such work picked up again in the early 1930s, partly as a result of worries about the schools' response to the strains of rapid growth and Depression-era constraints. And research on the impact of innovation developed into a sizable social science industry in the late 1960s, when a large and quite unprecedented program of national educational reform seemed to flag, or flop.

[17]See, for instance, Friedman, M., Capitalism and Freedom, Chicago: University of Chicago Press, 1962; and Center For The Study of Public Policy, Education Vouchers: A Report on Financing Education by Grants To Parents, Cambridge, 1970.

[18]Some reply that even if education were organized as a market activity, incentives would be relatively ineffective. For education does not have results that can be relatively easily summarized in things produced, services performed, net sales, or profit and loss--unlike most private firms and some public organizations. Nor are production processes well understood or easily controlled by teachers or managers. As a result, strong market incentives might well produce confused signals, or encourage teachers and students to do the simplest sort of work, or both.

[19]Cusick, P., The Egalitarian Ideal and The American High School, New York: Longman, 1983; Powell et al., Chapter 5.

[20]Cusick, op. cit.; Powell, op. cit.

[21]Powell, et al., p. 213.

[22]Newman, F., et al., The Second Newman Report: National Policy and Higher Education, Cambridge: MIT Press, 1973, pp. 10-11, 40-41. Also see references in note 51, below.

[23]In addition to these counter examples, direct evidence on the effects of incentives is thin. The preceding sketch draws on the work of historians, organization theorists, economists, and other commentators. But these studies contain little direct evidence on the effects of incentives on teaching or learning. Instead there are inferences (often large), from data collected for other purposes, data-free organizational theorizing, sociologically recycled economics, and interview studies in which direct testimony about motivation, commitment, and rewards is taken on its face. The skimpy evidence does not mean that incentives have no effects, but it certainly opens up doubt about the claims sketched above. Note as well that incentives are the resource of the 1970s and 1980s: reform in these decades has focused on tighter requirements, improved social climates for achievement, and other noneconomic resources. Yet enthusiasm for the efficacy of these resources is no more solidly based than enthusiasm for those resources that were popular in earlier decades: more experienced teachers, better books, newer schools, more equipment, and the like. In fact, the current assumptions about the efficacy of incentives have an eerie resemblance to assumptions about the power of "objective" resources in the 1950s and 1960s, just before the deluge of contrary evidence.

[24]Moore, E.C., The Story of Instruction, New York: Macmillan, 1938, chapters 3 and 4.

[25]Ely, F., and Arrowood, C.F., The Development of Modern Education, New York: Prentice-Hall, 1934, pp. 72-71, 82-100, 128-137.

[26]Cassirer, E., The Philosophy of The Enlightenment, Boston: Beacon, 1955, pp 3-15.

[27]See, for instance, Broudy, H., and Palmer, J., Exemplars of Teaching Method, Chicago: Rand-McNally, 1965, chapters 4,5,6; and Aries, P., Centuries of Childhood, New York: Knopf, 1962, p. 262.

[28]Aries, op. cit., p. 61.

[29]Aries, Part II, chapters 5,6,7.

[30]Ibid.

[31]These points are consistent with the testimony of those early reformers who sought to change traditional teaching. In the late eighteenth and early nineteenth centuries, Rousseau and Pestalozzi represented their child-centered ideas as unprecedented deviations from ancient practices of didactic lecture and mechanical recitation. British advocates of more gentle and child-centered instruction reported that rigid rote teaching was the rule there, four to six decades later. And contemporary American reformers of similar persuasion bemoaned the rigidity of teaching-as-telling, at about the same time. While vanity may have inclined these innovators to play down the sources of their own inspiration, the evidence in their accounts is quite consistent with everything else we know about teaching at the time.

[32]There was, in fact, a drastic tightening up of discipline in schools, as a consequence of the Reformation; see Aries, pp. 252-262.

[33]Aries, op. cit. The evidence suggests that instruction became much more rigid as a consequence of the Reformation. See also: Ely and Arrowood, op. cit.; Broudy and Palmer, pp. 69-70. Medieval approaches to teaching seem to have begun as formal occasions in which instructors told knowledge to students. But the rise of scholastic philosophy, which focused much attention of the problems of harmonizing Church teachings with increasingly diverse and secular knowledge, gave rise to new approaches, especially to formal disputation. This changed teaching, at least in some respects. Abelard, though celebrated in many modern accounts for his liaison with Heloise, was much more noted by contemporaries for his recognition of fundamentally contrary views of important religious issues, his efforts to harmonize these issues through a sort of dialectical method, and for his brilliance in disputes with other scholars concerning those issues. The method of dialectic that he helped to pioneer became central in scholastic philosophy. Disputa- tion played a noteworthy and perhaps central role in university teaching in the twelfth and thirteenth centuries: Teachers seem to have employed it among themselves, and perhaps in work with students; and students who wished to be certified as university teachers themselves (to become doctors) had to demonstrate their competence in disputation of a thesis that they prepared. It appears, however, that these forms became stylized and perhaps arid by the later Middle Ages. Disputation seems to have played no part in instruction in Protestant churches or schools.

[34]Broudy and Palmer, chapter 6; Aries, pp. 262, 266-268.

[35]Church, R., and Sedlak, M., Education in the United States: An Interpretive History, New York: Free Press, 1976, chapter 4.

[36]See, for instance, Page, D., Theory and Practice of Teaching, Syracuse: Hall and Dickson, 1947.

[37]Finklestein, B., Governing The Young: Teacher Behavior in American Primary Schools, New York: Columbia University Ed.D. thesis, 1970, pp. 13-101. See also the observations reported by Rice, J.M., in The Public School System of The United States, New York: Century, 1893.

[38]Tyack, D., The One Best System, Cambridge, Harvard, 1974, pp. 177-216.

[39]While the social organization of instruction described here is not unusual, it is not inevitable either. Some societies have very weakly developed school systems, and in such cases nearly all instruction is unspecialized. Other societies have very highly developed systems of schooling and child care, which sharply restrict unspecialized instruction. Some kibbutzim in Israel, for instance, deliberately have removed children from their homes and made child rearing a communal responsibility, carried out in separate facilities by somewhat specialized caretakers. While the purpose was to reduce social inequalities and build community, one effect was to replace unspecialized parental instruction with more specialized and formal instruction by child care workers. There are similar developments in the United States, though for quite different reasons. Formal, institutional child care has greatly expanded in recent decades, in part as a result of more women working outside the home. An increasing fraction of children therefore receive appreciably less instruction from parents, and appreciably more from teachers and from young peers. In some cases (home care, most obviously), informal instruction from child-care workers simply substitutes for parents'

informal instruction. But in other cases, children receive less informal and more formal instruction, because they attend formal child care agencies that give a prominent place to school-like teaching and learning.

[40]Most academic research on instruction focuses on school instruction, as though researchers assumed teaching and learning were limited to academic establishments. Academic investigations of instructional innovation also have been restricted to schools. Researchers have considered change only in school instruction, and have tried to explain nonchange only in terms of various features of schools' organization, management, or political economy. And they have done so despite all the evidence that popular influences on learning are very important, perhaps more important than academic influences. The great exception to this in the United States is the scholarship of Lawrence Cremin. In Public Education (New York: Basic, 1976), he sketches a lucid account of education, broadly conceived, offers a pointed critique of the extraordinary attention to schools, and suggests a few implications of his view for researchers and those concerned with public affairs. In American Education (New York: Harper, 1970 & 1982, 2 vols.), Cremin offers the first two parts of a three-volume history of education, which reaches far beyond schooling. It is an astonishing project; it will be fascinating to see whether, in a collection of education professions that seem obsessed with school, Cremin's remarkable work will broaden perspectives on the educational enterprise.

[41]See, for instance, Averch, H., et al., How Effective is Schooling? A Critical Review and Synthesis of Research Findings, Santa Monica: RAND, 1972.

[42]For example, Merelman, R., Political Socialization and Educational Climates, New York: Holt, 1971, pp. 90-108.

[43]See, for instance, Kohn, M.L., Class and Conformity, Homewood, IL: Dorsey, 1969, chapters 6 and 7.

[44]Opinion surveys regularly turn up large majorities of the population who express traditional views on matters of discipline, morality in schools, and teaching. The Gallup surveys, published periodically in Phi Delta Kappan, for more than a decade, are the most accessible current source.

[45]Kohn, op. cit.

[46]Aries writes, for instance, that traditional conceptions of childhood persisted, virtually unchanged, in the French and British working classes from the sixteenth and seventeenth centuries into the nineteenth century. The workers' social isolation from the aristocracy and upper middle class meant that innovative child-rearing ideas and practices, that originated among advantaged families, had little effect on workers. Medieval attitudes and practices thus persisted virtually unaltered, into the nineteenth century, among most French and British families (Aries, op. cit., 334-336).

[47]Jencks, C.S., and Reisman, D., The Academic Revolution, Garden City: Doubleday, 1969, pp. 12-27.

[48]It seems likely that this pattern will not be eased by the current reform movement. In fact, as "better" institutions get better still by tightening up teacher education requirements, their share of the teacher education supply will probably shrink, and an even larger fraction of the

coming teaching force will be educated in the less selective institutions. It is thus quite possible that the net result of reform will be a teaching force that is less well educated, on average.

[49]Heavy teaching assignments in the many institutions of mass higher and lower education offer many incentives to read little and write less. This difference in organizational mission and individual work greatly impedes the influence of ideas, produced at the center, on thought and practice at the periphery.

[50]Jencks and Reisman, op. cit., chapters 8-12.

[51]Though there is a large literature on college teaching, in which it is agreed that most teachers lecture, and that most do an uninspired job, there seem to be no surveys of teaching method. Two recent overviews of the field are: McKeachie, W. (ed.), New Directions For Teaching and Learning, San Francisco: Jossey-Bass, 1980; and Dunkin, M.J., "Research on Teaching in Higher Education," Handbook of Research on Teaching, M. Wittrock, (ed.), New York: Macmillan, 1986, pp. 754-777. For some historical observations see Rudolph, F., Curriculum, San Francisco: Jossey-Bass, 1977, pp. 88-89, 94, 232-233.

[52]Rudolph, op. cit., pp 275-276.

[53]This section draws on a book in progress, tentatively titled Teaching: Policy and Practice.

[54]The fit would doubtless depend at least partly on the strength of demand for therapists' services, but there seems to be no evidence of this point.